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THE AMERICAN YEAR BOOK

THE AMERICAN YEAR BOOK

A Record of Events and Progress

YEAR 1938

EDITOR

WILLIAM M. SCHUYLER

GENERAL EDITOR

ALBERT BUSHNELL HART

EDITED WITH THE COÖPERATION OF
A SUPERVISORY BOARD REPRESENTING NATIONAL LEARNED SOCIETIES

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PREFACE

The record of the year 1938, which this, the twenty-fourth issue of The American Year Book presents, affords in several respects an interesting contrast to the record of the year 1937. This is particularly true in the national economic and political picture. That picture as depicted in this volume appears to be one of surer strokes than in previous years of the depression period. Whereas in 1937 the midyear brought a change from recovery to recession in the business world, the reverse took place in midyear 1938, and at the close of the year sustained progress was in evidence with definite indications of brighter prospects for the year to come in the fields of business, finance, industry and commerce. There should also be noted considerable improvement in the matter of labor and social adjustments, and a quickening consciousness of religious values.

Of even greater long-range import, perhaps, in the uphill climb toward recovery were the less rasping tone of political disharmony, the livelier spirit of cooperation within the structure of the national polity, and the narrowing cleavage between liberal and conservative thought. In the international field, there was to be observed a growing unanimity of approval granted to this country's foreign policies. The United States came to be clearly aligned with the liberal countries of the world in the promotion of peace and in condemnation of persecution and intolerance, individual and racial. The whole picture was somewhat darkened by the accelerated pace of the international armament race and the doubtful issue of the sporadic attempts to reconcile the democratic and totalitarian concepts of government. In these matters, much was left to be desired at the year-end.

It has been the aim of the Editors, in assembling the materials for the 1938 picture, to achieve a balance on the basis of the significance of events and developments. Chronologies have been supplied for national and international affairs, for governmental activities, for business and finance. In addition to the lists of societies cognate to the major topical divisions of the book, there have been appended, to most of the divisions, lists of periodical publications to which in each case the reader may refer for a more complete presentation of a given subject than the limits of this volume permit.

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THE
AMERICAN YEAR BOOK

A RECORD OF EVENTS AND PROGRESS

PART ONE

HISTORICAL

DIVISION I

AMERICAN POLITICAL HISTORY

THE PRESIDENT AND HIS POLICIES

By Everett S. Brown

Professor, University of Michigan

DOMESTIC POLICY

President Roosevelt's address to Congress Jan. 3, 1938 provided a summary of his proposed domestic policies for the year. With respect to agriculture, the President went on record in support of a governmental program for a balanced agriculture, to raise the purchasing power of the farmer. To do this, he said, required also raising the purchasing power of the third of the nation which receives its income from industrial employment. This meant putting "a floor below which wages shall not fall, and a ceiling beyond which the hours of industrial labor shall not rise." He maintained that wages and hours legislation was an essential part of economic recovery, stressing the immediate desirability of increasing the wages of the lowest paid groups in all industry, and of thinking more in terms of the worker's total pay for a period of a whole year rather than in terms of his remuneration by the hour or by the day. "Government," the President declared, "has a final responsibility for the well-being of its citizenship." He was especially gratified, therefore, by the passage of the Fair Labor Standards Act, which, so far as products in interstate commerce were concerned, put an end to child labor, and set the desired floor below wages and a ceiling over hours of labor. In a radio address broadcast to the nation on June 24, the President said that with the exception perhaps of the Social Security Act, he regarded the Fair Labor Standards Act as "the most far-sighted program for the benefit of workers ever adopted."

SOCIAL SECURITY

On Aug. 15, in a radio address on the occasion of the third anniversary of the Social Security Act, the President pronounced the program good but expressed confidence that each year would bring further development in Federal and state social security legislation. He issued a warning to the public not to be "misled by those who advocate short cuts to utopia or fantastic financial schemes"—an implied criticism of the measures being advocated in California and other States.

BUSINESS DEPRESSION

On April 14, President Roosevelt sent a message to Congress on the business depression and in the evening of the same day summarized this message in a radio address to the nation. Reviewing the situation underlying the current recess, he said he had come to the conclusion that the problem called for action both by the Government and by the people. Pointing out that we were suffering from a failure of consumer demand because of lack of buying power, the President asserted it was necessary to create an economic upturn. Toward this end he had recommended to Congress three groups of measures. First, he asked for appropriations intended to keep the Government expenditures for work relief and similar purposes during the coming fiscal year at the same rate of expenditure as at present. Second, he told Congress that the Administration proposed to make additional bank reserves available for the credit needs of the country. Third, he proposed to make definite additions to the purchasing power of the nation by providing new work in addition to continuation of the old work. The latter proposal included immediate construction of about $300,000,000 of additional slum clearance projects; the renewal of a huge public works program in States, counties and cities; additional appropriations for Federal aid highways; additional expenditures for flood control and reclamation; and additional expenditures for Federal buildings in various parts of the country. The President coupled his recommendations with the preservation of American personal liberties. Drawing a lesson from the fate of democracies in Europe where the people had chosen to sacrifice liberty in the hope of getting something to eat, he warned that, in order to preserve our liberties from a possible similar fate, we must prove "that the practical operation of democratic government is equal to the task of protecting the security of the people." The Government "seeking to protect democracy, must prove that Government is stronger than the forces of business depression."

EDUCATION AND DEMOCRACY

In his address before the National Education Association in New York June 30, President Roosevelt said that "it has been and will be the traditional policy of the United States to leave the actual management of schools and their curricula to state and local control," and added that no one wanted the Federal Government to subsidize education any more than was absolutely necessary. He pointed out that in many places local government cannot adequately finance education and in such cases the Federal Government could properly supplement local resources. Emphasizing the need of keeping education intellectually free, he warned that "when the clock of civilization can be turned back by burning libraries, by exiling scientists, artists, musicians, writers and teachers, by dispersing universities and by censoring news and literature and art, an added burden is placed upon those countries where the torch of free thought and free learning still burns bright. . . . The ultimate victory of tomorrow is with democracy, and through democracy with education, for no people can be kept eternally ignorant or eternally enslaved." In this as in many other instances, the President indirectly expressed his disapproval of the acts of totalitarian states abroad, a disapproval which was noticeable also in his foreign policy.

ANTI-TRUST POLICY

On April 29, in a message to Congress on the dangers of the growing concentration of economic power, the President declared that "the power of a few to manage the economic life of the nation must be diffused among the many or be transferred to the public and its democratically responsible government." He said that the anti-trust laws must be enforced, but that proper enforcement required thorough investigation not only to discover violations of the laws but to avoid prosecutions harmful to business and government alike. He recommended an appropriation for such a study and offered a number of suggestions concerning the items which should be embraced in the proposed study. The President declared that this program was not intended as the beginning of any ill-considered "trust-busting" activity but "a program whose basic purpose is to stop the progress of collectivism in business and turn business back to the democratic competitive order."

TAX PROGRAM

On April 25, President Roosevelt submitted to Congress a message recommending legislation subjecting to income taxation income from certain so-called immune sources which has heretofore escaped its share of the tax burden. According to the President, the language of the Sixteenth Amendment to the Constitution, which confers on Congress the power and authority "to lay and collect taxes on incomes from whatever source derived," is broad enough to permit Congress to include in gross income, for the purpose of arriving at taxable net income, the interest received from Federal, state, and municipal bonds and the remuneration or compensation received by state and municipal officers. The President pointed out that these exemptions defeat the basic philosophy of our income tax structure, that is, taxation according to ability to pay. He recommended legislation which would terminate the exemptions by (1) subjecting to the Federal income tax (a) interest on future issues of Federal, state, and municipal bonds, and (b) salaries of state officers and employees; (2) permitting the State to subject to state income taxation (a) interest on future issues of Federal bonds, and (b) salaries of Federal officers within the taxing jurisdiction of a given State. At the request of the Treasury Department, the Attorney General directed that a study be made of all relevant data on the problems affecting the legislation proposed in the President's message.

CORPORATION PROFITS

At Arthurdale, W. Va. May 27 the President made public his intention of permitting a new tax bill to become a law without his signature. While admitting that it contained many good features, he criticized it on the ground that the easing of taxes on capital gains and undistributed corporation profits violated the principle that one should support the Government in proportion to his means. He urged the adoption of tax policies "which will encourage men to venture and to build new productive wealth." On the following day, Senator Pat Harrison, Chairman of the Finance Committee of the Senate, in a speech in the Senate, declared that the President had apparently been misinformed. He maintained that, under the new law, there was progressive taxation on capital gains, and that the "little fellow" was given a better deal in respect to his tax on capital gains than he had received since 1913.

REFORM AND POLITICS

Speaking to the American people over the radio June 24, President Roosevelt revealed his determination that there should be no "moratorium on reform." Appealing for liberalism in politics, he defined a liberal as "the believer in progressive principles of democratic, representative government and not the wild man who, in effect, leans in the direction of Communism, for that is just as dangerous as Fascism." He declared that the opposing or conservative school of thought "does not recognize the need for Government itself to step in and take action to meet these new problems." He maintained that, as head of the Democratic party, he had every right to speak in those instances where there was a clear cut issue between candidates for a Democratic nomination involving principles of liberalism. In conformity with this policy, the President on July 8 at Covington, Ky. put his stamp of approval on Senator Alben Barkley as against Governor Chandler, Barkley's rival for the Democratic senatorial nomination. Again, in an address delivered at Denton, Maryland, Sept. 5, President Roosevelt drew a distinction between liberal and conservative on the basis of improvement of conditions with or without governmental action and declared that the Democratic party would live and continue to receive the support of Americans just as long as it remained a liberal party. He praised the legislative record of Representative D. J. Lewis, the opponent of Senator Millard Tydings in the Democratic primary in Maryland, indicating by his remarks that Mr. Lewis was the type of liberal of whom he had been speaking. The President gave his support to a number of other New Deal candidates for office, and in a national radio address Nov. 4, appealed to the voters for "continuous liberal government" in the elections of Nov. 8.

Despite New Deal losses in the elections of November, President Roosevelt, speaking at Chapel Hill, N.C. Dec. 5, served notice that there was to be no turning back from his liberal objectives. Declaring that constant change was necessary if there was to be continued national progress, he said: "What America does or fails to do in the next few years has a far greater bearing and influence on the history of the human race for centuries to come than most of us who are here today can ever conceive. We are not only the largest and most powerful democracy in the whole world, but many other democracies look to us for leadership that world democracy may survive." This statement received added political significance from the President's remark that he was not speaking of the external policies of the United States.

PHILIPPINE POLICY

In making public Nov. 28 the report of the Joint Preparatory Committee on Philippine Affairs, President Roosevelt stated that the report had his approval "as the basis of Congressional consideration for the purpose of correcting the imperfections and inequality of the Independence Act of March 24, 1934, against which the Filipino people have complained, and for the purpose of making more certain and definite the future commercial relationships between the United States and the Philippines after Philippine independence is attained." The Joint Preparatory Committee proposed elimination by 1960 of all special trade preferences between the two countries. The recommendations were based on the assumption that the Philippines would become wholly independent on July 4, 1946. No change in this date was recommended by the Committee. It proposed that there should be a reduction of five per cent a year in preferences given by the United States to the Philippine Islands, in each of the last five years of Commonwealth status, and that this same rate of reduction should be continued after Philippine independence. During this period, as provided by the Independence Act, goods from the United States would continue to have all preferences now accorded them in the Philippines during the Commonwealth period. A few exceptions to this broad principle were offered by the Committee. Although the stated purpose of the study was to correct certain inequities in the Philippine Independence Act, it contained such definite details for the separation of Philippine economy from that of the United States that there seemed a probability that it would be used as a weapon by Filipinos who, on account of the current unsettled state of the Far East, are opposed to complete independence.

REARMAMENT

International crises in the Far East and in Europe during 1938 compelled President Roosevelt to devote a steadily increasing portion of his time and attention to foreign affairs. To the search for international adjustments to restore world trade, which culminated during the year in the Anglo-American agreement, and to the continuance of efforts to promote the Good Neighbor policy, with its corollary of the doctrine of continental solidarity, was added a third phase of foreign policy—rearmament. As early as Jan. 3, 1938, in his address to Congress, the President said that it was our traditional policy to live at peace with other nations, and that toward this end we had been among the leaders "in advocating the use of pacific methods of discussion and conciliation in international differences." Nevertheless, "resolute in our determination to respect the rights of others, and to command respect for the rights of ourselves we must keep ourselves adequately strong in self-defense."

In his message to Congress Jan. 28, the President asked for the expansion of the Navy and the strengthening of the Army. Remarking that efforts of the American Government to find a way to limit and reduce armaments had failed, he recommended the authorization of increased appropriations for Army materiel, for the better establishment of an Enlisted Reserve for the Army, and for an increase in the building program for the Navy. He asserted that our defense must be adequate to meet simultaneous attacks on both our coasts. In the same message he expressed the belief that the time had come for Congress to enact legislation aimed at the prevention of profiteering in time of war and the equalization of the burden of possible war.

On Oct. 14, President Roosevelt disclosed at a press conference that he had ordered a searching investigation, into the question of national defense, and indicated that vastly increased expenditures on both Army and Navy were contemplated. This gave rise to considerable speculation as to whether the President was contemplating using the armament program as a new attempt at pump-priming. In a press conference Dec. 6, President Roosevelt denied any such intention. He disclosed that, when he makes his recommendations to Congress to reinforce land, sea and air defenses, he will not link them with attempts to stimulate business and employment. He stated flatly that national defense was national defense and nothing else. He intimated the hope that the forthcoming huge armament program might not necessitate an increase in the Federal tax burden but could be carried out on a pay-as-you-go policy.

MONROE DOCTRINE AND CONTINENTAL SOLIDARITY

Aggressions on the part of totalitarian governments in Europe led to repeated warnings by President Roosevelt against any attempts to extend these European systems of government to the Americas. In addressing the governing board of the Pan-American Union on Pan-American Day, April 14, the President declared that the Americas were resolved to maintain peace and would not permit this peace "to be endangered from aggression coming from outside our hemisphere." During the course of an address at Queen's University, Kingston, Ontario, Aug. 18, he emphasized this phase of his foreign policy with the remark: "I give you assurance that the people of the United States will not stand idly by if domination of Canadian soil is threatened by any other empire." Later, when dedicating an international bridge over the Thousand Islands, he reaffirmed friendship for Canada by inviting Canadian cooperation in developing the St. Lawrence waterway.

An address which was generally accepted as a re-statement of the Monroe Doctrine in the light of present-day European conditions was made by the President Oct. 26 in connection with the *New York Herald-Tribune's* forum on current problems. After condemning the suppression of liberty, religious persecutions and the use of threats of war to attain national ends, President Roosevelt issued a blunt warning that "we are determined to use every endeavor in order that the Western Hemisphere may work out its own interrelated salvation in the light of its own interrelated experience." This policy was repeated by Secretary of State Hull Nov. 25 on the eve of his departure for Lima, Peru to participate in the eighth international conference of American States. The Secretary said that the Government of the United States would strongly support at the conference every effort designed to strengthen the traditional ties among the nations of America and "to create new bonds of solidarity which would serve to eliminate the danger of war among themselves and to safeguard them from the propagation on their soil of extra-continental disputes."

Shocked by the Nazi persecutions of Jews in Germany, President Roosevelt, at a press conference Nov. 15, conceding frankly the possibility of attempts at foreign aggression in the Western Hemisphere, proclaimed the continental solidarity of all the Americas and the determination of the United States to expand its defenses to the extent required to repel any threat of invasion from any country beyond the seas. This policy received support at Lima where the 21 republics of the Western Hemisphere proclaimed their decision to defend themselves "against all foreign intervention or activities."

EUROPEAN POLICY

From appeals to European powers to make every effort to prevent the outbreak of war in the Czechoslovakian crisis, President Roosevelt passed to condemnation of the treatment of the Jews in Germany and to insistence on the protection of the rights of American citizens in Germany. On Sept. 26, the President sent a message directly to President Benes of Czechoslovakia and Chancellor Adolf Hitler of Germany, and through the Secretary of State to the Prime Ministers of Great Britain and France, reminding them that every civilized nation of the world had voluntarily assumed the solemn obligations of the Kellogg-Briand Pact of 1928 to solve controversies only by pacific methods. On behalf of the people of the United States, he urged the continuation of negotiations to reconcile the differences over the boundaries of Czechoslovakia. To Chancellor Hitler's reply that the question of peace or war rested not with Germany but with Czechoslovakia, President Roosevelt repeated that all matters of difference between Germany and Czechoslovakia could and should be settled by pacific methods, and that it was supremely important that negotiations should continue without interruption until a fair and constructive solution was reached. He emphasized the fact that the Government of the United States had no political involvement in Europe, and would assume no obligations in the conduct of the present negotiations. "Yet," he said, "in our own right we recognize our responsibilities as a part of a world of neighbors."

Outbursts of German anti-Semitic feeling following the signing of the Munich peace pact called from the President the formal statement that the news from Germany had deeply shocked public opinion in the United States and that he himself "could scarcely believe that such things could occur in a twentieth century civilization." He recalled Ambassador Wilson from Berlin "for report and consultation," and further indicated his displeasure by retaining the Ambassador indefinitely in Washington. Strained relations with the Nazi Government were also emphasized by a series of notes insisting on Germany's responsibility for the Austrian debts and in demanding that there be no discrimination in Germany against United States citizens on account of race or creed. Speaking through Sumner Welles, Acting Secretary of State, Dec. 22, the Government abruptly rejected a sharp protest the German Government sought to have delivered to the State Department against a speech of Secretary of the Interior Harold Ickes, in which Secretary Ickes severely criticized the Nazi persecution of the Jews. Mr. Welles said that German policies had shocked American public opinion. He charged that the virulent attacks of the press in Germany on President Roosevelt and his Cabinet officers were government-authorized. He declared that as long as the attacks continue in Germany that country can expect attacks like that of Secretary Ickes to continue in this country.

A further indication of the foreign policy of the United States was expressed by Senator Key Pittman, chairman of the Senate Foreign Relations Committee, in what he described as the American attitude toward all dictatorships: The people of the United States do not like the Governments of Japan and Germany; they are against any form of dictatorial government; they have the right and power to enforce morality and justice in accordance with peace treaties, "and they will." A conciliatory note was struck by President Roosevelt in his Christmas Eve address during the course of which he said: "We desire peace. We shall work for peace. We covet neither the lands nor the possessions of any other nation or people."

FAR EAST

Japan's military campaigns in China have raised once more the question of the maintenance of the American traditional policy of the Open Door in China. An advance of a $25,000,000 commercial loan to China by the Export-Import Bank was described by Hachiro Arita, Japanese foreign minister, as a "regrettable act" and one than which "nothing will be more dangerous," especially if such loans were intended as gestures against Japan. Despite this indication of Japanese disapproval, Secretary of the Treasury Morgenthau announced Dec. 19 that the United States had decided to continue its extension of credit to China against gold held in this country. Since there has been no declaration of war by China or Japan, Secretary Morgenthau denied that the extension of the credit arrangement violated the spirit of the Neutrality Act. He maintained that it was simply the extension of credit to a friendly nation.

On Dec. 31 Joseph C. Grew, United States Ambassador at Tokyo, delivered to Foreign Minister Arita a note insisting upon observance of the Open Door policy and American rights in China. Rejecting the Japanese thesis that a "new order" had arisen under Japanese auspices in East Asia, the note reserved "all rights of the United States as they exist," and refused "assent to any impairment of those rights." As an indication of our general foreign policy, as applicable to the Far Eastern question, the note stated bluntly: "This Government does not admit that there is need or warrant for any one Power to take upon itself to prescribe what shall be the terms and conditions of a 'new order' in areas not under its sovereignty and to constitute itself the repository of authority and the agent of destiny in regard thereto." At the same time the note left the door open for negotiations if Japan should decide to alter her stand and approach all the interested treaty powers with a view to revision of the existing agreements concerning China.

SUMMARY

The blunt refusal of Acting Secretary of State Welles to receive a German protest against the speech of Secretary Ickes; the statement of Senator Pittman; the stand taken by our delegates at the Pan-American Conference at Lima respecting defense solidarity in the Western Hemisphere; the announcement of an export loan of $25,000,000 to China, and the suggestion of an intention to make similar advances to other friendly nations; the note of December 31 to Japan; and the proposed rearmament program, have led to speculation over the future of our foreign policy. To some observers these events point to the beginning of a new aggressiveness in foreign relations. One phase of this aggressiveness would be the use by the Government of its strong economic weapons to keep its trade channels open throughout the world, to insure its own defense and to assist in keeping the rest of the world at peace. Post-Munich developments and Japanese military successes in China present an important issue in foreign policy and in our armament program. The question to be decided is whether the United States should risk entanglement by encouraging resistance to aggressor nations or take the risk of more complete isolation in the event of the breakdown of all resistance in China and Europe.

NATIONAL PERSONALITIES

By Harold M. Dorr

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FRANKLIN D. ROOSEVELT

President Roosevelt was America's number one political figure for 1938. Public opinion polls conducted throughout the year recorded frequent fluctuations in the President's popularity but at no time was he supported by as few as 50 per cent of the voters. "Personality" was recorded by these polls as his primary political asset. He continued his policy of appealing to the rank and file of the people through frequent personal appearances and radio addresses. However, the President's popularity with the voters was not necessarily indicative of his position in his party. Early in the year certain Senators demonstrated evidences of diminishing loyalty and, as the year wore on, there was increasing gossip concerning the possibilities of an open break with Garner and Farley. Yet, despite the defeat of his reorganization bill, the last session of the 75th Congress produced no real challenge to his leadership.

Early in the year the President intimated that he would take an active part in the Democratic primaries in several of the States, and before the adjournment of Congress he announced that he would not hesitate to use his influence as head of the party to insure the nomination of liberal candidates. He thus decided to carry New Deal issues from the Congress to the rank and file of the party. Lending support to an early suspicion that he would welcome a realignment of party forces, the President announced that he would appreciate the election of genuine liberals regardless of party affiliations. This pronouncement revived gossip of a Roosevelt-Farley break and elicited from Senator Glass the retort: "A Democrat at his worst is better than a Republican at his best."

The determination of the President to utilize the influence of his position to secure the election of liberals led him into Ohio, Kentucky, through the southwest, into the southeast, Maryland and New York. In some cases he openly denounced; in others, he endorsed by implication only. In making his choices the President used the dual test of liberalism and experience in that order. In these political excursions, Roosevelt kept his announced objectives in the fore, yet the question was frequently raised as to whether the President was primarily interested in encouraging the election of a liberal Congress or in lining up delegates for the 1940 convention. The year closed without a presidential statement on the question of a third term and without any real indication of his reaction to the possible split in the ranks of the Democratic party. In spite of the conservative drift registered in the November elections, the President turned more frequently to his "left-wing" advisers and announced that there would be no "recession" from the primary objectives of the New Deal.

The net results of the President's decision to speak as the head of his party can not yet be properly appraised. If assessed simply in terms of success at the polls, the President gained one or two signal victories and suffered several significant defeats. One thing, however, is certain: the "presidential purge" attributed to several individuals a political significance and stature which they could not have otherwise enjoyed and placed the question of a liberal-conservative split in the party clearly to the fore. In the three most highly publicized "purges" the President registered one victory against two defeats.

WALTER F. GEORGE

In his pre-primary visit to Georgia to endorse Camp, the President referred to Senator George as an "old friend" but added that on public questions "we do not speak the same language." To which the Senator replied: "I accept the challenge"; the people are ready to prove that "we in Georgia are capable and determined to run our own affairs." Apparently speaking for many a southern Democrat, George declared further: "I am a Democrat, but the Democratic party is not a one-man party. . . ." George was nominated by a comfortable plurality and reelected. The Senator announced that he interpreted his reelection as a mandate from the people to stand upon his past record.

MILLARD E. TYDINGS

Senator Tydings accepted the challenge well in advance of the President's visit to the East Shore. Tydings declared that the people would insure that "the Maryland Free State shall remain free." The President's visit was widely described as a "federal invasion of the Free State of Maryland." In spite of his legislative record and the President's denouncement, Tydings was returned to Congress and will personify the anti-New Deal sentiment better than any other Democrat in the Senate. The Free State of Maryland, it is being whispered, will be prepared to sacrifice a favorite son in 1940.

JOHN J. O'CONNOR

Representative O'Connor was attacked by Roosevelt as "one of the most effective obstructionists in the lower house." The ex-Chairman of the Rules Committee replied in the George-Tydings manner that the voters in his district "will alone decide who will represent them in the House." Mr. O'Connor stood for nomination in both the Republican and Democratic parties only to be defeated first as a Democrat and then as a Republican by J. H. Fay.

HOMER S. CUMMINGS

Expressing a desire to return to the private practice of law, Attorney General Cummings presented his resignation in November. Reputed author of the "Court packing proposal," he closed his official career with an anti-monopoly drive reminiscent of the trust-busting days of 30 years ago. This attempt to revitalize the enforcement of the anti-trust laws focused public attention upon two assistants in the Department.

ROBERT H. JACKSON

Prominent anti-business spokesman for the White House and frequently mentioned as the President's choice to succeed Governor Lehman of New York, Jackson was fitted both by temperament and training to undertake the enforcement of the anti-trust laws. Jackson accepted his appointment seriously and set out upon his mission somewhat with the spirit of a crusader. As a reward for his activities in the automobile financing and oil price-fixing cases, Jackson was promoted to the post of Solicitor General following Reed's appointment to the Supreme Court.

THURMAN ARNOLD

Professor of law at Yale and author of *Symbols of Government* and *The Folklore of Capitalism,* Arnold was selected to succeed Jackson as head of the Anti-Trust Division. His activities have been almost as spectacular and even more astounding than those of his predecessor. He prosecuted the Aluminum Company of America, moved against alleged monopolistic practices in the motion picture industry, and secured indictments against several physicians and societies prominent in the medical profession. Mr. Arnold has indicated an extensive use of the "consent decree" in combating monopolistic practices.

JAMES A. FARLEY

Throughout a year of political rumors, uncertainties and contradictions, Farley remained as the President's most trusted political adviser.

As the year closed rumors were more persistent than ever to the effect that Farley will retire from the Cabinet. It is almost certain that the Postmaster General, a loyal organization man, disapproved of many of the President's political pronouncements and resented his growing reliance upon left-wing advisers. Following the President's plea for the election of liberals, Farley announced that the National Committee would go down the line for Democratic nominees regardless of their views on the New Deal. Farley spent much time conferring with and reassuring organization leaders. It is significant that Farley has held most of his post-election conferences outside Washington. Farley will attempt to remain loyal to both the President and the party but, if forced to choose between them, it is evident that he will not desert the party.

HARRY L. HOPKINS

As usual the President appeared to vacillate from right to left in seeking advice on matters of governmental policy. Although Donald Richburg was a frequent White House caller, the President showed a preference throughout the year for the Hopkins-Ickes-Wallace group. For these men, 1938 was a year of conflict and grief, yet of vindication. The bitter primary and election contests in several of the States encouraged certain candidates to employ dubious methods which greatly aggravated the administrative difficulties of W.P.A. Reports of the illegal use of relief funds and attempts to coerce W.P.A. workers kept Hopkins busy investigating charges and denying rumors. Hopkins perhaps more than any other adviser urged the President toward the left. He applauded Roosevelt's interference in the primaries as "clearing away the cobwebs and confusion" in the accomplishment of New Deal objectives and charged the government with a permanent responsibility for supplementing yearly incomes in the lower economic brackets. Because of his loyalty, sincerity and singleness of purpose, Hopkins won the confidence and respect of the President and closed the year as Roosevelt's most trusted adviser and confidant. His nomination to the Cabinet post left vacant by the resignation of Secretary of Commerce Roper was accepted as a matter of course. Hopkins will be charged with the responsibility of establishing more cordial relationships between business and the New Deal.

HAROLD L. ICKES

The Secretary of the Interior distinguished himself as the most outspoken, if not the most outstanding champion of the President's policies. He created flurries of excitement in delivering a series of speeches in which he attacked "totalitarianism, either of the right or left," "America's Sixty Families," German persecution of the Jews, and sundry other presidential foes both real and imaginary. He invited criticism of his administration of P.W.A. by timing the announcement of grants for public construction in Maryland to coincide with the President's endorsement of David J. Lewis. In the closing months of the year Ickes toyed with the idea of entering the mayoralty contest in Chicago but finally decided to remain in the Cabinet.

HENRY A. WALLACE

His frequent White House visits early in the year on matters remotely related to agriculture raised speculation as to whether or not Secretary of Agriculture Wallace had been selected to succeed to the head of the government. These rumors were scotched rather early by Hopkins' rapid rise, the agricultural revolt against the quota system of the new crop control program and tumbling farm prices. The Secretary clashed with the Chief Justice over procedural methods which had formerly been used in fixing livestock commission rates and ran counter to Secretary of State Hull's trade policies with his proposal to dump agricultural surpluses on the foreign market. Before the close of the year, Wallace announced and renounced his "two-price" plan designed to dump surpluses upon the depressed sectors of the domestic market.

CORDELL HULL

In administering the affairs of the State Department through the most trying year since the World War, Secretary Hull won the respect and admiration of the American people. In spite of constant pressure, foreign and domestic, he maintained a balanced judgment and pursued his policies with "a rugged purity of purpose" that is deserving of high praise. Hull showed no tendency to revert to the traditional policy of isolation in the conduct of American foreign affairs. He insisted that the United States should accept the responsibility for mustering world opinion against war but was equally insistent upon the protection of legitimate American interests abroad. He urged a system of armed defense which would adequately insure that protection. Before the close of the year the Secretary witnessed the signing of his much cherished trade agreement with Great Britain and Canada and headed our delegation to the Pan-American Conference in Lima, Peru.

JOHN N. GARNER

The Vice President never demonstrated any real enthusiasm for either New Deal methods or objectives. In the past year evidences of his views have become so pronounced as to indicate a definite break between him and the President. On several occasions, especially in regard to tax legislation and industrial control, he has shown signs of irritation and advised the President to be more moderate. When Roosevelt visited Texas, Garner managed to be otherwise occupied and did not take the trouble either to meet or greet the Executive. The defeat of Maury Maverick spoke significantly for the Garner influence in the Southwest. Neither has committed himself, yet certain political observers are anticipating a Farley-Garner controlled convention in 1940. Whatever his ambitions or his age, the Vice President will yield a real influence in shaping the pre-convention policies of the conservative branch of the party. At the close of the year political observers were hinting at the possibilities of a Garner controlled Congress in 1939, which would insist upon a re-distribution of constitutional powers between the Congress and the Executive.

PAUL V. McNUTT

McNutt is more or less quietly retired as High Commissioner to the Philippines. However, he refuses to admit retirement. McNutt returned to the United States early in the year, ostensibly to report to the President, but took advantage of the opportunity to serve notice that he was a potential presidential candidate. Friends of the High Commissioner staged a huge "McNutt demonstration" in Washington to which 4,000 people were invited. It appears that this burst of enthusiasm was ill-timed. Farley frowned upon the demonstration, and it was avoided by the politically influential. Nevertheless, the Indiana State Convention endorsed McNutt and, to insure united support within the State, nominated Van Nuys, one of the original Presidential purgees, by acclamation.

ALBEN W. BARKLEY

Following the death of Senator Robinson of Arkansas, Barkley was reputedly endorsed by the President to succeed to the position of majority floor leader in the Senate. In that capacity he served the Administration well and won Roosevelt's endorsement in the primary contest. Barkley managed to defeat Governor Chandler following a campaign widely described as a battle between the national and state machines in Kentucky. The methods employed in the campaign did not enhance Barkley's political prestige. It is generally believed that the Hatch amendment was defeated largely because of Barkley's insistence that he was entitled to the support of the Federal organization, including W.P.A. officials and workers. At present the Senator's expressed ambition is to deliver the keynote address at the Democratic convention. However, Barkley has not forgotten his childhood idea "that every boy has a chance to be president some day."

HERBERT H. LEHMAN

The first real difference of opinion between Governor Lehman of New York and the President came over the proposal to reorganize the Supreme Court. Since that time the Governor has implied criticism of New Deal spending in his report on fiscal conditions in New York. He announced that during his term of office he had managed to wipe out a huge Roosevelt deficit and to bring the state budget into balance. Having completed his program in New York, the Governor expressed a desire to retire to the United States Senate. However, when it became evident that only Wagner or Lehman could defeat Dewey, the Governor sacrificed this ambition in order that the patronage of his State would not fall into Republican control before 1940. In his campaign he refused to endorse the New Deal but, nevertheless, requested the election of candidates who would support the President "in his humane legislation." In an otherwise disastrous election, Lehman saved the State for his party, but speculation is rife as to whether it has been saved for Roosevelt or for Farley.

BENNETT C. CLARK

Senator Clark of Missouri is mentioned here not because of his accomplishments during the past year but because of his potentialities as a vote-getter. Clark is ordinarily thought of as a conservative. He is rather an independent liberal. With few exceptions, his legislative record is acceptable to the liberal wing of his party. His background and his independence commend him to the conservative group. He is personally well liked and, like Taft in Ohio, the family name and tradition should serve him well.

JOHN D. M. HAMILTON

The Republican National Chairman, holding over from 1936 in spite of alleged differences along the front line, demonstrated a degree of spirit as he busied himself with problems of reorganization and party deficits. Hamilton's attacks upon the Administration were directed against New Deal spending, administrative blunders and the political character of relief administration. Despairing somewhat because of his apparent inability to inject new life into the old party, he accepted the President's challenge for a political realignment with an invitation to anti-New Deal Democrats to join with the Republicans in the creation of a new party "based upon sound Jeffersonian principles." Republican victories in November and the successful ironing out of intra-party differences in the post-election sessions of the National Committee greatly strengthened the position of the Chairman. Hamilton's leadership has apparently been accepted for the ensuing two years.

ALFRED M. LANDON

Although he campaigned vigorously in his own State and retained an interest in the national political scene and the fortunes of his party, Mr. Landon demonstrated a disinclination to return to active public service. His participation in the program to rebuild the party was definitely restricted and he repudiated all claims to leadership in announcing that he would not be a candidate for the presidency in 1940. And, to emphasize his position, he declared that he would reject the nomination were it offered him. He accepted an appointment from the President as a delegate to the Pan-American Conference.

HERBERT HOOVER

Somewhat more active than Landon, Ex-President Hoover criticised the objectives and alleged achievements of the Administration ostensibly to vindicate his position in 1932. On at least two occasions he attacked the Roosevelt foreign policy and declared that the interests of the Western Hemisphere were not jeopardized by European disputes. Defending the traditional isolation policy, he denounced "the whole idea of pledging our military or economic forces to any scheme for preserving peace by making war." He was disturbed by much of the political machinations but refused to disclose openly his plans for 1940. Mr. Hoover's political future apparently rests with the Frank committee, originally designed to preserve the prestige of the Ex-President. If the liberal wing can gain control of the national organization, it will undoubtedly either repudiate the committee or dictate a report unacceptable from the conservative point of view. In either case, the Hoover influence is doomed.

ARTHUR H. VANDENBERG

The Michigan Senator has displayed greater political astuteness and ingenuity than any other member of the old school; also, he has been the most active. Reputedly converted to the policy through trickery, Mr. Vandenberg has become the leading exponent of the now accepted practice of recognizing the anti-New Deal Democrats as the official opposition and subordinating the Republican minority to their leadership. He has managed to continue his crusade against the New Deal without raising embarrassing issues on primary objectives. His criticisms have been at least moderately constructive. In the closing weeks of the year the Senator was engaged in assembling facts to support a profit-sharing and incentive taxation scheme which, he proposed, would end the incessant conflict between management and labor. Although he has implied that he would not again be a candidate for any office, he was an active particpant in the Murphy-Fitzgerald contest in Michigan and has been named by Farley as the man to beat in 1940. A recent public opinion poll of favorite presidential candidates placed the Senator in a two-way tie for second place well behind Dewey of New York.

THOMAS E. DEWEY

Among those who have recently challenged attention in national Republican circles there is none who today outranks Manhattan's "racket-busting" district attorney. In bringing James J. Hines, indicted Tammany leader, to trial on charges of furnishing protection for New York racketeers, Dewey at once became a national figure and a prominent contender for political preferment. In spite of the court's declaration of a mistrial in his most important case, Dewey won the gubernatorial nomination and came within less than 70,000 votes of ousting Governor Lehman. Although his integrity and energy are beyond question, Dewey has yet to demonstrate that he is possessed of the political acumen and capacity necessary to make him an outstanding political figure. The American Institute of Public Opinion, in a survey of potential presidential candidates, gave Dewey in November almost as many votes as were attributed to his two leading rivals. However, Dewey faces an enormous handicap in that he will for the next two years be relegated to almost political obscurity while at least two of his leading rivals will bask in the political spotlight as members of the United States Senate.

ROBERT A. TAFT

Dewey's principal rival among the ranks of the newcomers is somewhat better established nationally both in his own right and as the son of an Ex-President. Unlike Dewey, Taft lacks those personal characteristics usually called "political color." He is ordinarily regarded as reserved, unemotional and devoid of a sense of humor. By way of compensation he has demonstrated that he is public spirited, intellectual and well informed. His victory over Senator Bulkley was in a way a tribute to those characteristics. Regarded by some as an ultra-conservative, he is known to all as a rabid anti-New Dealer. However, he is not opposed to all New Deal objectives. Both Dewey and Taft, by reason of the political significance of their respective States, enjoy an enormous advantage when thinking in terms of the 1940 convention. However, both may be eclipsed within the course of the next two years by John W.

Bricker, governor-elect of Ohio. Although not as well known nationally, Bricker is well established in Ohio and will have fine opportunities to attract national attention as the chief executive of a politically doubtful State.

FRANK MURPHY

Murphy's defeat in Michigan was particularly disconcerting. He better than any other state executive personified the New Deal and had emerged as an outstanding friend of labor and champion of the cause of the underprivileged. Murphy was not an organization man in the ordinary sense of the word and consequently suffered in his attempts to place "good government" ahead of political patronage. His handling of the labor troubles in Michigan led to charges of "lawlessness," "infringement of property rights" and "radicalism." Following his defeat, Murphy declared for the formulation of a new progressive policy under the leadership of President Roosevelt. Throughout December, Murphy was frequently mentioned along with Robert Jackson as a likely successor to Homer Cummings. It was widely believed that Jackson was first in line and that Murphy would receive the appointment only in case the Senate confirmed the Hopkins nomination. Assured in pre-session conferences that the nominations would be acceptable, the President appointed Murphy Attorney General before the 76th Congress convened.

FIORELLO H. LA GUARDIA

Nobody demonstrated greater concern in the collapse of the liberal movement than did La Guardia. Describing the election results as a real set-back for the cause, the New York Mayor immediately summoned several of the defeated leaders for consultation. These conferences touched upon the subjects of a third term for the President and the formulation of a third party which would bring together all liberal elements regardless of existing party affiliations. He admonished labor to "adjust its differences," and declared in favor of "a well-defined, concise, progressive program." In recognition of his efforts, *The Nation,* in a signed article, said of La Guardia that "he has made himself the most powerful force in this country for uncompromising liberalism." It is believed in many quarters that the strategic position so long held by the La Follettes has shifted from the middle west to New York City.

PHILIP F. LA FOLLETTE

The immediate future of the progressive movement may rest with the La Follette family. With the declaration "that Roosevelt's political prestige is bankrupt [and] that the New Deal is, from an economic standpoint, basically wrong," the former Governor of Wisconsin, supported by his Senator-brother, attempted to launch a third party movement. In breaking with the President, La Follette was especially critical of American foreign policy, public borrowing and the farm program. Although all liberal groups were publically invited to join forces with the La Follettes, the brothers were criticized for their apparent failure to consult recognized liberals in other sections of the country. La Follette announced, following his defeat in the Wisconsin gubernatorial contest, that his plans for the consolidation of all liberal groups into a real progressive party will be carried forward.

JOHN L. LEWIS

Lewis retained his position as labor's most aggressive spokesman and colorful figure. Although peace gestures were evident on both sides, Lewis appeared in no hurry to end the differences between the A. F. of L. and the C.I.O. He may even have widened the breach in organizing the C.I.O. upon a permanent basis. Apparently disinclined to involve labor in any third party movement at present, Lewis announced that Labor's Non-partisan League would "work within the framework of the Democratic party in the selection of delegates" to insure the nomination of "progressive candidates for the office of President and Vice President" at the 1940 Democratic National Convention. However, a spokesman for the League said that the precinct and county organization movement would be perfected to the point where a third party would have an organization ready in case the "best interests of labor" dictated a withdrawal from the ranks of the two major parties.

BENJAMIN N. CARDOZO

Following a long, incapacitating illness, death claimed one of America's most learned and respected jurists. In his years of service Justice Cardozo, in combining judicial objectivity with a sociological approach to the law, left an indelible imprint upon American jurisprudence.

HUGO L. BLACK

Black was the subject of much discussion in both judicial and political circles. In several sharply worded dissents, the Associate Justice demonstrated impatience with the maze of judicial precedents and procedural difficulties under which the Supreme Court labors and asserted a readiness to cut judicial red-tape in his attempts to restate basic legal principles. The circumstances surrounding his appointment were recalled by a widely quoted article which imputed to Black a lack of "legal craftsmanship" and asserted that his presence on the Bench caused his colleagues "acute discomfort and embarrassment." Other members of the Court were quick to refute the charges and to assert that Black was an able and valuable justice.

THE YEAR IN CONGRESS

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THE PRESIDENT AND CONGRESS

The Congress which on Jan. 3, 1938 convened for the third time within 12 months continued overwhelmingly Democratic in complexion. In the House 329 Democrats completely overshadowed the 90 Republicans, 8 Progressives, and 5 Farmer Laborites. In the Senate were 76 Democrats, 16 Republicans, 2 Farmer Laborites, 1 Progressive, 1 Independent Republican. In spite of these figures the next few months were to prove that America was not yet by any means to be run on a one-party system. The dissension within the Democratic ranks which had commenced in the preceding sessions continued and increased, reaching perhaps its high water mark in March and April with the overwhelming passage of the Revenue Bill containing features obnoxious to the Administration and with the House rejection (in the form of recommittal to Committee) of the President's reorganization plan. On an average, it might be said that at this point, 22 of the 76 Democratic Senators and at least 100 of the 329 Democratic Representatives were consistently "Independent."

After the defeat of the reorganization plan, the intra-party split seems to have been healed, a reknitting probably facilitated by the results of the May 3 primary in Florida when it became apparent that President Roosevelt had not been completely ousted from the leadership of the Democratic party. The 431 Representatives * and 32 Senators facing reelection seem to have decided that, in the eyes of the electorate, America still functioned under a two and not a three-party system and that for better or for worse the old party

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* Rep. Kenney of New Jersey died in January and the vacancy was not filled. Several other deaths and resignations account for the difference between the list above and the official figures printed in the Congressional Directory for the Third Session. The totals there given are: House—Democrats, 327; Republicans, 90; Progressive, 7; Farmer Laborites, 5; vacancies, 6. Senate—Democrats, 77; Republicans, 15; Progressives, 1; Farmer Laborites, 2; Independent Republican, 1.

alignment was the safest aegis under which to face the November contests. The effect of this revolt against the President in holding up legislation was marked. Of the 15 major pieces of legislation listed below, which were requested or approved by the President, only four had been enacted by May 1. While by adjournment on June 16 all of these measures had received Congressional consent, a number of other presidential desires had been flaunted.

Most important of the issues upon which a sizeable portion of his party joined with his political opponents to block the President's plans were, first, the modification in the new Revenue Act of the provisions for "undistributed profits" and "capital gains," the Democratic "bolt" here being overwhelming, almost 200 Democratic representatives deserting the Administration to pass the amended Bill; second, 108 House Democrats failed to follow Administration leaders on the question of Government Reorganization, and joined with other members to defeat, by recommittal to Committee, the Reorganization Bill by a vote of 204 to 196. In addition, no action was taken in regard to regional planning, nor was the President's urgent request to prohibit holding companies, especially in the field of banking, followed. Remedial legislation for the railroad crisis was also ignored, in spite of presidential recommendation and in spite of the R.F.C. report that 27 more of the country's Class I railroads will soon join the 36 now in bankruptcy or receivership unless some governmental action is taken. His request for an item veto on appropriations was abandoned. The last four of these actions were merely negative in character, but the first and second constituted direct defiance of executive wishes. So thoroughly did Roosevelt oppose the tax modifications that he refused to sign the Revenue Act, for the first time since he took office allowing a measure to become law without his signature. Incidentally this was the first time since the adoption of the Sixteenth Amendment in 1913 that any President has failed to sign a revenue bill.

The President vetoed 40 bills during the session. One presidential veto—on the measure extending the low interest rate on certain Federal Land Bank loans—was overridden, as was a similar veto in the preceding session. On the other hand, by far the greatest part of the President's program was sanctioned by Congress. His request for measures insuring crop control and stabilizing farm incomes was met by the passage of the Jones Agricultural Adjustment Act. The Housing Act promotes both small home building and slum clearance, projects close to the Presidential heart. The Wages and Hours Bill, in spite of bitter opposition, won an eleventh hour victory. Further commercial and industrial credits were made possible by R.F.C. amendments. The Merchant Marine and the Navy were both accorded generous extensions of program. Organs of control over natural gas companies, over advertising, and over civil aeronautics were set up in the public interest, and "over the counter" security deals were brought under the supervision of the S.E.C. Sorely needed revisions of the bankruptcy laws and of the Food and Drug Act were passed. Congress approved flood control projects and appropriated ample funds for W.P.A.—the Presidential relief policy—without attaching thereto the restrictions of Congressional approval which had been urged as a desirable "governor" on executive allocations. Finally the investigation of monopolies was authorized and subsidized by the Legislative body. All of the President's appointments were confirmed.

A total of more than 500 bills and resolutions became law within the 117 days of the session. On many of these, preëminently on the important Farm Bill, Housing Act and Tax Bill, most or all of the preliminary legislative work had been completed during the special session in November-December of 1937.

MECHANISM OF CONGRESS *

Conference Committees.—In the course of considering almost 4,000 and enacting over 500 laws and resolutions, conference committees were necessary in the case of about 45 public measures. On 20 of these committees House and Senate were equally represented, on 19 the House had greater representation, while on six the Senate predominated. The average committee membership was 11. The tendency of such large numbers is due, at least in part, to two factors: first, entire House subcommittees are sometimes appointed to work out compromises on appropriation bills; second, so frequently are measures entirely rewritten in conference that all interests are anxious to be represented.

Control of Debates.—Interesting methods of "controlling" legislative action may be noted. In the first place limitation of debate is often used to facilitate, sometimes to precipitate, the final voting on measures. For example, in the House three days of general debate were permitted on the farm bill and seven more days were devoted to amending its various provisions. The revised conference Farm Bill was accorded a further four-hour debate. A special rule allotted 12 hours for debate on the Naval Expansion Bill, and by unanimous consent 13 hours, exclusive of amendment discussion, was allowed for the Revenue Act. In the case of the recovery measure, although 12 hours of free general discussion were permitted, the amending process was subjected to rigid limitations. Debate on the merchant marine bill, the judiciary bill, the food and drug legislation, and the T.V.A. investigation was limited to two hours. The Senate on the whole acted promptly but, as will be seen below in a few cases, individuals or groups managed effectually to block majority action. House Calendar Wednesdays were considerably more numerous during the 1937–1938 sessions than often happens, and consequently the consideration of less important legislation was more easily provided for.

Filibusters.—The most sensational filibuster of the session was, of course, the result of the Southern opposition to the anti-lynching bill. This bill had been before the Senate during the first and second sessions, and for six weeks of the third session it retained the power. The only weapon of opposition was the procedure of recessing rather than adjourning from day to day. As a result the Senate sat for only three "legislative days" from Jan. 5 to June 16. Although this device limits each Senator to two speeches on the original bill and each amendment, obviously a filibuster can still be prolonged indefinitely by the continuing introduction of new amendments. Neither public opinion nor the petitions to invoke the closure rule managed to break the deadlock, and finally the anti-lynching bill was abandoned in order to give place to the supplementary relief legislation. A successful brief one-man filibuster by Senator Clark was achieved by the ingenious method of alternately making motions and compelling quorum calls. Such a call must be made when requested if any business has been transacted since the last call. In this way Clark wearied the Senate leadership into postponing the final vote on the Naval appropriations measure so that the Missouri Senator could make a long and publicized speech against the bill.

Politics.—If from the statistical figures on voting it seems difficult to trace a distinct "party line" on many important issues, this is on the whole because the Democrats split, not because the Republicans voted for the administration measures. Only on the "Recovery" appropriation bill was there any notable division among the latter; for the recommittal of the administrative reorganization bill, for instance, the 90 Republicans in the House voted unanimously. On the postmaster's civil service bill the Senate vote was 58–17. Of the 58, only two were Republicans. Not a single

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* For valuable assistance in preparing this section the authors are indebted to the article on "The Second and Third Sessions of the Seventy-Fifth Congress" by O. R. Altman, published in the December, 1938, issue of the *American Political Science Review.*

Republican Senator voted against the (defeated) attempt to prevent political activities of relief officials, nor against either of the attempts sponsored by Hatch of New Mexico to prohibit non-elective Federal officials from participating in party conventions or campaigns. Of the 21 votes cast in favor of Vandenberg's amendment to place relief under state administration, 12 were Republican, 1 Farmer Laborite, 8 largely "insurgent" Democrats like Burke of Nebraska and Byrd of Virginia, not one of the 15 Republican senators voting against the measure.

WAGES AND HOURS BILL

An example of the mechanics of legislation as they affect the passage of one measure may prove interesting. During the first session of the 75th Congress Administration Wages and Hours bills were introduced in Senate and House by Black of Alabama and Connery of Massachusetts respectively. Although several exemptive amendments were insisted on, the bill easily passed the Senate without a record vote on July 31, 1937. Several northern Republicans joined Administration Senators on this issue because they hoped that minimum standards in the South would go far to eliminate industrial competition from that quarter. The Senate measure with amendments was promptly reported out of the House Labor Committee but the House Rules Committee, predominantly Republican and Southern Democrat in character, refused to give the bill privileged status. Without such status, especially so late in the session, it would be almost impossible to bring up such a controversial measure for consideration. Several courses might have been followed, none of them for various reasons desirable. The use of Calendar Wednesday was impracticable, the Labor Committee having been called but four times during the 1937–38 biennium. Moreover, consideration of any bill on calendar Wednesdays is limited to two hours. A motion to pass the bill under suspension of the rules was, in the first place, possible only on the first or third Monday of the month or during the last six days of session; required, in the second place, a ⅔ vote; and in the third place, limited debate to 40 minutes. The most feasible course was a motion to discharge the Rules Committee from consideration of the "Special Privilege" measure, but according to the House code of procedure this would have entailed at the very least a delay of several weeks in the adjournment of Congress and consequently the consideration of the Labor bill was postponed.

When Congress reconvened in special session the Rules Committee remained firm and Chairman Norton of the Labor Committee, unable to secure the signatures of a majority of the House necessary for a discharge motion, finally decided to sponsor a substitute bill to be presented as an amendment to the original Senate bill. This change secured the needed signatures for discharge. Early in December the House voted to discharge from the consideration of the Rules Committee, a resolution by which the original Senate bill could be read and debated for four hours after which a maximum of five minutes would be allowed for the explanation and defense of the Labor Committee substitute. Once on the floor, the fate of the measure seemed to become even more hopelessly involved. Controversies raged over specific exemptions; substitute bills endorsed by various groups were introduced; Representatives were confused by conflicting admonitions of labor leaders; local interests among congressmen themselves militated to make agreement impossible, and farm interests failed to rally to the bill's support. As a result, the measure was recommitted by a vote of 216 to 198.

Subsequently, in the third session, the very reverse of this chaotic situation prevailed. Labor factions began to cooperate, the President won Southern support, concessions were made to key industries and to the North which did not seriously affect the value of the general provisions, and in May the Administration prestige was revived by the Florida primaries. Consequently, although the Rules Committee remained firm, the necessary number of signatures for a discharge petition were easily secured, and on the second day of debate the substitute House bill was passed by a vote of 314 to 97.

However, this substitute differed so widely from the original Senate bill that every group concerned clamored for representation on the conference committee. The Southerners even threatened a filibuster if their demand for membership was not acceded to. The resulting committee, composed of 14 members, negotiated for two weeks and finally reported a compromise measure which was actually a new bill. However, the compromise was a practical success and received immediately, on June 14, the approval of both House and Senate. The vote in the former was 291 to 89. In the Senate no roll call was necessary. (See Section "Labor".)

APPROPRIATIONS

The third session of the 75th Congress went down in history—at least temporarily—with the distinction of having sanctioned the "largest spending program in peacetime America," with a total appropriation of approximately $12,300,000,000, topping by nearly $2,000,000,000 the former "high" of 1936. This total, of course, includes reappropriations and deficiency appropriations as well as direct ones. The amounts under these groupings are estimated to be as follows:

Direct appropriations for regular department functions....	$ 5,104,985,000
Direct appropriations—recovery and relief..............	2,915,405,000
Reappropriations (estimate)...	882,473,000
Permanent appropriations.....	2,718,772,000
Deficiency and special appropriations (estimate)........	700,000,000
	$12,321,635,000

The major increases in the budget were probably due in large part to three factors: (1) the business depression which necessitated the tripling of the original relief estimate; (2) international developments which sent the defense appropriations over $1,000,000,000 for the first time since the World War; (3) the naturally increasing demands of the expanding social security program, which account for another $1,000,000,000. These figures do not include funds reappropriated for the above purposes. Furthermore it is estimated that the $3,000,000,000 of relief money will probably be exhausted by March 1, 1939.

In the list (next page) of appropriation acts and resolutions the amounts given are approximate. They do not include reappropriations or permanent appropriations. Deficiency and special appropriations are listed separately.

A few individual items are of special interest. The appropriations for the Department of Agriculture which, including reappropriations and permanent allotments, totaled well over $1,000,000,000, provided a $500,000,000 fund to finance the soil conservation benefit payments. The Bureau of Public Roads received $187,500,000 of which $125,000,000 was to be allocated to the Federal Aid Highway System, $20,000,000 to the Federal Aid "feeder" roads and $50,000,000 to the elimination of grade crossings. Five million dollars was to be devoted to land utilization and the retirement of submarginal land.

More than three-quarters of the non-military appropriation of the War Department is for the maintenance of existing and initiation of new river and harbor projects and for the purpose of flood control. Of the Navy Department sum over $138,000,000 is for the construction and equipment of already authorized or newly authorized vessels and over $21,000,000 for the acquisition or construction of new aircraft.

W.P.A. received $1,425,000,000 of the relief appropriation. This sum it was estimated would last until March 1, 1939. "Ear-markings" within the fund consisted of a maximum of $485,000,000 for streets and highways, and of $656,000,000 for various other construction projects. However, a limited transference was sanctioned. P.W.A. was granted $965,000,000 direct appropriations to finance Federal proj-

	Amount	Approved	For Period
1. First deficiency appropriation	$ 28,089,000	March 5	1937–1938
2. Second deficiency appropriation	275,403,000	June 25	1937–1938 Supplementary 1938–1939
3. Special relief appropriation	250,000,000	March 2	1937–1938
4. Social Security deficiency appropriation	3,500,000	May 25	1937–1938
5. Independent offices	1,423,198,000	May 23	1938–1939
6. Treasury and Post Office	1,403,684,000	March 28	"
Treasury	610,913,000		
Post Office	792,771,000		
7. Agriculture	745,790,000	June 16	"
8. Sugar Act appropriation	39,750,000	February 4	"
9. Insect Control	2,000,000	March 2	"
10. War Department:			
Military	459,402,000	June 11	"
Non-military	196,963,000	June 11	"
11. Navy Department	546,867,000	April 26	"
12. State Justice, Commerce, Labor, and Judiciary	130,590,000	April 27	"
State	16,639,000		
Justice and Judiciary	42,337,000		
Commerce	47,281,000		
Labor	24,333,000		
13. Interior	129,678,000	May 9	"
14. Legislative	21,664,000	May 17	"
15. Relief—Recovery	2,915,405,000	June 21	"
CCC	22,000,000	April 25	"
16. District of Columbia	47,255,000	April 4	"

ects and to cover grants and loans for projects of other governmental units. Of the amount to be directly spent, not loaned, it was estimated that about $165,000,000 would be used for payrolls, about $400,000,000 for the purchase of steel, cement and other "heavy" goods. To carry out the parity payments to producers of wheat, corn, cotton, rice and tobacco provided under the new A.A.A. act (*q. v.*), $212,000,000 was allocated.

AGRICULTURE

Acreage Allotment.—Most of the actual legislative groundwork of the Jones Agricultural Adjustment Act of 1938 was laid during the 1937 special session, and by Feb. 14 the compromise conference report had been accepted by the House (264–135) and by the Senate (56–31). Acreage allotments based upon production for domestic consumption, exports and reserve supplies are to be set each year by the Secretary of Agriculture for corn, wheat, tobacco, rice, cotton, and, by subsequent amendment, hops. For instance the national allotment of cotton for 1938 and 1939 was set at a minimum of 10,000,000 and a maximum of 11,500,000 bales. The 1938 allotment of wheat was 62,500,000 acres; that of 1939 was by subsequent amendment of the act set at a minimum of 55,000,000 acres. The apportionment of the total allotment among producing States and among counties is usually on the general basis of past acreage, although a few specific qualifications of the general rule are contained in the Act. Benefit payments to cooperating farmers are provided for.

Soil Conservation.—The Soil Conservation Plan is in a sense closely connected with the Allotment Plan, since cooperation in "soil conservation" most frequently consists in substituting grass or clover for the previous cotton, wheat, or corn crops. Five hundred million dollars annually is provided for distribution among farmers who participate in this aspect of the agricultural program. There is a limit of $10,000 for any individual payment.

Marketing Quotas.—In order to keep surpluses of these basic commodities off the market the Secretary of Agriculture is empowered, after a careful survey of the available supply, to proclaim a "marketing quota" if in any year the total supply exceeds a certain percentage of the normal consumption, export, and reserve needs. These percentages range from 105 for tobacco to 135 for wheat. However, each of these quotas must be referred to the farmers concerned, and no quota can go into effect if opposed by more than one-third of those voting on the referendum. After a quota has been adopted, the marketing of commodities in excess of it is an offense subject to specified fines.

Loans on Storage. — Another method of keeping surplus commodities off the market in times of plenty and reserving them for years of need is the system of loans to cooperating farmers on storage of food and feed surpluses, which was authorized by the act.

Stabilization of Farm Income.—The new act further provides for payments to cooperating producers of wheat, corn, cotton, rice and tobacco for the purpose of restoring the 1909-1914 ratio of farm income to industrial income. Two hundred and twelve million dollars was allocated for this purpose in the 1938 Relief and Public Works Appropriation. Moreover, the Commodity Credit Corporation is authorized to make loans on agricultural commodities, including dairy products, and is required to make them when prices on corn, wheat, or cotton fall below specified levels or supplies rise above specified percentages. Non-cooperators are also entitled to such loans, but on somewhat less favorable terms.

Crop Insurance.—A Federal Crop Insurance Corporation was set up within the Department of Agriculture, to have ultimately a capital stock of $100,000,000. This agency is authorized to insure wheat producers against loss of yield resulting from flood, drought, insects, storms, or plant diseases. The system goes into effect with the 1939 harvest, and for the first three years the insurance coverage is to be not less than 50% nor more than 75% of the average yield of the respective farms. The farmers will be paid in wheat or cash equivalent. Premiums for the insurance are payable either in cash or in wheat and by an amendment to the act, it was made permissible for a producer to pay up his premiums in advance during a prosperous year.

Miscellaneous.—The act also contains miscellaneous provisions defining "normal yield," providing detailed bases for acreage allotments, etc. Of general interest is the authorization for expenditure of $4,000,000 annually for four regional laboratories to study new uses and markets for farm products.

Commodity Credit Corporation.—The Steagall Commodity Credit Act provides for stabilizing the capital of the Commodity Credit Corporation at $100,000,000, deficiencies to be supplied from, and excesses deposited in, the Treasury. With the approval of the Secretary of the Treasury the Corporation may issue obligations totalling $500,000,000 which shall be guaranteed both as to principal and interest by the United States. Since these obligations are considered Federal instrumentalities, they are tax exempt.

AIR MAIL

The Mead Air Mail Extension Act, approved in January, 1938, authorizes the extension of air mail routes from a maximum of 33,000 miles to a maximum of 35,000 miles and permits the payment for transportation of air mail over 52,000,000 airplane miles in place of 45,000,000 airplane miles, but a later act (approved April 15), in addition to authorizing experimentation with the autogyro for airport-to-city service, further extended the general service by setting a maximum of 40,000 miles for the routes and a maximum of 60,000,000 airplane miles.

AVIATION

The Lea McCarran Civil Air Authority Act establishes a Civil Aeronautics Authority to be composed of an administrator and a five-member board. The members will be appointed by the President for six-year staggered terms. Within the Authority a three-member Air Safety Board will be set up. The Authority is given wide powers over economic regulations for air carriers, the licensing of foreign and domestic carriers; rates for carriage of persons, express, and air mail; safety regulations; and enforcement of labor standards legislation in the air industry. Its approval is necessary for consolidations, mergers, or other similar interrelationships either between separate air carrier-companies or between these and other companies. In addition, it is directed to study the existing system of airports and report to Congress within a year recommendations as to the desirability of a national airport system. The administrator is to "encourage and foster" the development of civil aeronautics, not only by encouraging the establishment of airways, landing areas and other facilities but also by "designating, establishing and charting" civil airways and other facilities and by directing various phases of research which will further the extent and safety of air transportation. The Air Safety Board is primarily designed to investigate air accidents and to recommend to the Authority regulations calculated to prevent air disasters. The bill passed House and Senate in May without record votes, and the conference report was approved by the former on June 11, by the latter on June 13, both without record votes.

BANKRUPTCY

Not since 1898 has there been a general revision of the national bankruptcy law. For this reason the Chandler Bankruptcy Act, the culmination of a nine-year study, necessarily amended and clarified a multitude of points, some of minor but many of major significance. Classifications and jurisdictions were redefined; discharge provisions remodelled; evasion made more difficult; some new privileges granted; some old loopholes eliminated; and in general efficiency of administration enhanced. Two sections are of particular interest. By the new law, wage earners are permitted to arrange for amortization of their debts over a period of years under the protection of the Bankruptcy Court. This provision not only prevents garnishments and executions but considerably cramps the usurious practices of the so-called "loan sharks."

Another Section of the old act dealing with corporate reorganization has been extensively changed. The appointment of disinterested persons as trustees in reorganizations involving liabilities of more than $250,000 is made mandatory. Moreover, investors are protected by the requirement that in reorganizations of all corporations whose indebtedness exceeds $3,000,000 the reorganization plans *must* be submitted for investigation and advisory report to the S. E. C. and by the further clause that, in smaller cases, such submission may be ordered by the court. The new bill had received House approval during the first session of the 75th Congress, but waited until June 10, 1938, for Senate passage. Then, however, it passed without record vote and without the necessity for a conference report.

The Bankruptcy Act of 1898 was amended in another way by the separate Farm Bankruptcy Act which permits the filing of bankruptcy petitions by farmers up till March, 1940. and makes various administrative and legal provisions concerning such actions.

BANKS

The Glass Bank Official Loan Act extends for a year (to June, 1939) the period within which loans made prior to June, 1933 to executives of member banks of the Federal Reserve System may be renewed or extended.

The Steagall Stock Liability Amendment to the Federal Reserve Act modifies stockholders' double liability in connection with federally insured banks by ordering the Federal Deposit Insurance Corporation to waive claims on account of such liability in excess of actual liability to bank or bank creditors for the amount unpaid upon his bank stock. According to the same new Amendment, the Federal Deposit Insurance Corporation, upon payment to a depositor in a closed national or district bank, shall be entitled to assume all the rights of said depositor as creditor to the bank. In the case of other types of banks no payment to depositors shall be made until the substitution of the Corporation as creditor with full creditor rights is clearly and expressly recognized in some official manner.

The power of the Federal Deposit Insurance Corporation to make loans secured by assets of an open or closed insured bank subordinate to rights of depositors, to purchase assets of an open or closed insured bank, or to guarantee an insured bank against loss by reason of assuming liabilities and purchasing assets of an open or closed insured bank, was indefinitely extended by a resolution of the Congress.

BUSINESS

Food, Drug and Cosmetic Act.—Business, in the broad sense of that term, was affected by several pieces of 1938 legislation. Most important of these was the Food, Drug, and Cosmetic Act which repealed the Pure Food and Drug Act of 1906 and substituted more stringent and comprehensive regulations for food, drugs and health devices in addition to including cosmetics under the regulatory provisions. Briefly summarized, the act provides that no new drug is to be put on the market till adequately tested for safety; that adulterated or misbranded foods, drugs or cosmetics are barred from interstate commerce; that habit-forming drugs must be clearly labelled; that strength, quality, and purity of drugs must be stated; and that, with certain exceptions, the names of all ingredients of foods, drugs, and cosmetics must be noted on the containers. Powers of the Secretary of Agriculture in connection with the enforcement of this act are defined, and remedial and punitive procedures specified. For instance, the District Courts are authorized to issue injunctions against the sale of articles which do not conform to the law. Originally a Senate bill, approved in the Senate on March 9, this piece of legislation was passed in an amended form by the House on June 1, the House changes rejected by the Senate on June 2, but insisted on by the House, and a conference committee appointed. The compromise measure was passed by the Senate on June 10, by the House on June 13, without record votes.

Federal Trade Commission Amendment.—At least a part of the Federal Trade Commission Act amendment is closely allied to the food, drug, and cosmetic act; Sections 12 to 18 of the Amendment prohibit as "unfair practice" the dissemination of false advertisements inducing to the purchase of food, drugs, devices, or cosmetics. Temporary injunctions against the sale of falsely advertised articles are obtainable, but if the falsely advertised article is injurious to health or the advertisement tends to defraud or mislead the purchaser, criminal prosecution and penalties are provided. In a more general way this amendment makes unlawful all "unfair *or deceptive* acts or practices in commerce." The former law concerned only unfair practices. Thus advertising, through whatever medium, comes under the control of the Commission, and the resistance of its properly affirmed cease and desist orders is punishable by sizeable fines. The bill had been passed by the Senate in the first session, March 29, 1937, on Jan. 12, 1938 the House approved by a vote of 107–10 and by March 14 both Houses had, without record votes, accepted the conference report.

The Maloney-Eicher Act amends the S.E.C. Act of 1934 by providing some mechanism for the control of "over the counter" trading in securities. The 1934 law gave such control to the Commission but failed to provide any plan for exercising supervision over this particularly elusive type of transaction. The present amendment requires the registration with the S.E.C. of national and affiliated associations of over-the-counter brokers. However, since the organization of such associations is voluntary, the objective obviously is a cooperative system of regulation by which unfair practices and unreasonable profits may be restrained. The bill had no particularly exciting legislative history. It passed the Senate on March 31 and the House on June 16, on both occasions without a record vote.

Natural Gas.—By another act the transportation and interstate sale of all natural gas is brought under the jurisdiction and regulation of the Federal Power Commission. Rates and charges are subject to approval and modification by the Commission; all exportation and importation of gas is illegal unless authorized by the same body; the granting of discriminatory preferences or the imposition of discriminatory disadvantages in regard to rates, services or facilities is prohibited, as is the extension, without the Commission's consent, of services into areas already serviced by other gas outlets. On the other hand the Commission may order the extension of services by any company into sections where facilities are not now available if such an order does not impose an undue burden. Interstate compacts for the conservation, production, transportation, or distribution of natural gas are to be analysed by the Commission and recommendations to Congress based on such analysis and on a study of all relevant factors are to be made by the Commission. Almost a year had elapsed since the House approved this bill when, on June 7, the Senate gave its assent. Promptly thereafter, on June 13–14, both House and Senate accepted the conference report without record votes.

Price Discrimination.—An Amendment to the Robinson-Patman Price Discrimination Act of 1936 exempts from the act supplies purchased for their own use by schools, colleges, universities, public libraries, churches, hospitals, and non-profit charitable institutions.

CIVILIAN CONSERVATION CORPS

The Woodrum Civilian Conservation Corps Act is primarily an appropriation act and is noted in that section. However, one specific provision is of particular interest. It is provided that no part of the appropriation shall be used for the construction of any new camps.

CIVIL SERVICE

By the Postmasters Civil Service Act, postmasters of the first, second, and third classes, which group comprises those now appointed by the President subject to Senatorial confirmation, will be henceforth included under Civil Service. The act provides for the possibility of "blanketing in" by non-competitive qualifying examinations of the 14,000 present incumbents although the President is also empowered alternatively to promote a lower postal employee in accordance with Civil Service regulations or to select a new official by competitive examination. After the Bill in various modifications had been up for vigorous and prolonged debate in both House and Senate, the conference report was accepted in the House June 11, by a division vote of 180 to 61, in the Senate on June 14 by a vote of 58 to 17. Probably the "blanketing in" provision provides some clue to the correlation between the minority votes and the number of non-Democratic Representatives and Senators. In all fairness to the Democrats it should be added that this measure is a distinct improvement on previous "blanketing in" acts.

COMMUNICATIONS

The McCormick Radio Act amends the 1934 Communications Act by specifying that nothing in the latter shall be interpreted to prevent a common carrier subject to the Communications Act from furnishing, either at a nominal charge or without charge, reports of positions of ships at sea to newspapers of general circulation if the name of the informant carrier is displayed with the ship position reports. The Amendment was passed because such service had been prohibited by a regulation of the Federal Communications Commission.

DEFENSE

Army Strength.—Attention has already been called, in the Section on Appropriations, to the sizeable increase in Army and Navy appropriations, but many other acts of the last session testify to the quickened interest in national defense. The commissioned strength of the Army was increased from 12,374 officers to 14,659 officers. The President was empowered to increase or diminish the number assigned to any branch by not more than 30%. However, two limitations to his discretion were imposed: first, the officers in the Air Corps must be increased from 1,650 to 2,092; second, of the Reserve Officers annually trained under Appropriation Acts 10%, and not less than 50 men, must annually be appointed to the Regular Army.

Regular Army Reserve, to be a part of the Regular Army, but in addition to the authorized strength of the latter, is reestablished by the Sheppard Army Reserve Act. Only persons who have served in the Regular Army, have been honorably discharged and who are less than 36 years years old, may enlist in the Reserve, and inactive status therein would involve no right to retirement pay or re-enlistment bonus, nor would pensions be claimable unless a disability were incurred in line of active duty.

Air Corps.—The quota of men enlisted in the Army which is to be assigned to the Air Corps is increased from 16,000 to 21,500.

Marine Corps.—The percentage of privates in the Marine Corps is increased from 25% to 50% of the total authorized number of privates. By another act a Naval and Marine Corps Reserve is created which will be composed of a fleet reserve, an organized reserve of officers and men assigned to the training of the reserve, a volunteer reserve, and a Merchant Marine reserve. In addition the act establishes a naval militia and provides for the naval training of civilians.

Aircraft Research.—A $2,000,000 project for research into rotary winged aircraft was authorized. The purpose of the investigation is to determine the possible utility of such craft for national defense and for other governmental activities as well as for general commercial and civil use.

Munitions Supplies.—The Secretary of War was authorized to place "educational orders" for munitions and accessories with commercial manufacturing concerns in order to familiarize them with the process of supplying such materials. The law was, of course, designed to prevent delays and deficiencies in the filling of government orders in the event of war.

Naval Expansion. — Most publicized and spectacular of the defense measures was the billion dollar naval expansion plan which passed the House on March 21 by a vote of 294–100, the Senate on May 3 by a vote of 58–38. The conference report was approved without records on May 11 and May 13. The net effect of this legislation is to increase by 20% above existing treaty limits the American naval power. The specific increases authorized are as follows:

Capital ships—105,000 tons increase; total authorized tonnage, 630,000. In addition, ships of more than 35,000 tons may be constructed if other nations build in excess of that figure and under those circumstances the total tonnage may be raised to 660,000.

Aircraft carriers—increase, 40,000 tons; total, 175,000.

Cruisers—increase, 68,754 tons; total, 412,524.

Destroyers—increase, 38,000 tons; total, 228,000.

Submarines—increase, 13,258 tons; total, 81,956.

The addition of various auxiliary vessels, such as tenders, repair ships, mine layers, mine sweepers, and tugs is also authorized. In terms of vessels, the program is estimated to provide for the construction of three battleships, two aircraft carriers, nine cruisers, 23 destroyers, nine submarines, and 26 auxiliary craft. The President is further empowered to acquire, construct or equip enough additional naval airplanes to bring the total to at least 3,000. The number would be approximately 950. The act sanctions a $15,000,000 appropriation for the purpose of constructing experimental vessels and $3,000,000 for the building of a dirigible for training and experimental uses.

Declaring that the United States would welcome and support international naval limitations, the act permits the President to suspend so much of this building program as would result in tonnages exceeding such an international agreement, with the exception that no craft actually under construction shall be scrapped. A Study Commission to investigate the need for additional submarine, mine, destroyer, or naval air bases on the coasts of the United States or its territories is authorized.

FISH

Chiefly interesting because of the background involved are two acts in connection with salmon fishing. An amendment to the Fisheries Act of 1924 provides that in the area of Bristol Bay (Alaska) stake nets or set nets shall not be used in commercial salmon fishing except by citizens of the United States who have resided in that area continuously for two years. There are international complications, especially so-called Japanese poaching, behind this provision.

The recent construction of large dams on the Columbia River has caused a serious problem in connection with the salmon industry. The salmon in their upstream return for the spawning season are faced with the necessity of scaling the impressive structures of Booneville and Grand Coulee. It has been possible at the former site to construct "fish ladders" but the nature and height of the latter dam render this impracticable. If no solution is found, a $10,000,000 industry faces eventual extinction. Congress in the past session authorized the Department of Commerce to establish salmon cultural stations in Oregon, Washington, and Idaho sections of the Columbia River basin and to "conduct necessary surveys and investigations to facilitate conservation of fishery resources." An expenditure of $500,000 was authorized.

FLOOD CONTROL

Congress authorized an appropriation of $375,000,000 for the construction of a series of flood control projects to be completed by June, 1944, and further authorized the appropriation of an additional $11,500,000 to be expended by the War and Agriculture Departments and by the Federal Power Commission for examinations and surveys necessary in connection with this "or other" plants sanctioned by Congress. Among the larger projects specifically mentioned are those for the building and maintaining of reservoirs, levees, and flood walls designed to effect flood control in the basins of the Ohio River, the lower Mississippi, the upper Mississippi, the Willamette, the Red River, the Arkansas, and the Connecticut. According to the original House bill, passed May 19 without a record vote, 70% only of the total cost of dams, reservoirs, etc., was to be borne by the Federal Government, but a Senate amendment, incorporated in the final report, which passed House and Senate on June 14 and 15, provided that the entire cost would be assumed by the Federal Government.

GOVERNMENT FINANCE

Notes of the R.F.C. and sums due and unpaid in connection with such notes which were incurred in supplying relief funds of various types were cancelled by the Steagall R.F.C. Relief Obligations Act.

The Glass R.F.C. Recovery Loan Act permits the R.F.C. between June, 1938 and June, 1939 to make loans up to $1,500,000 to public agencies or to state or local governments in order to finance governmental projects and encourage employment, and to private businesses for the general purpose of economic stabilization. No loans to railroads may be made except with the consent of the I.C.C. but otherwise the extent, nature, and terms of the loans are left largely to the discretion of the R.F.C. itself. The limitation of $500,000 to one borrower and the deadline of 1945 repayment are both removed.

The Second Liberty Bond Act was amended by the Doughton Bond Limitation Act by removing the $25,000,000,000 limitation on outstanding bonds prescribed by the original act. It was further amended by the provision that the total face value of bonds, certificates of indebtedness, treasury bills and notes issued under the act together with that of certificates of indebtedness issued under the First Liberty Bond Act (Section 6) shall not exceed $45,000,000,000 at any one time and that the bonds only shall not exceed $30,000,000,000.

The 3½% interest rate on certain Federal Land Bank loans was extended for two more years and a 4% rate set, until July 1, 1940, on Land Bank Commissioner's loans. This bill was vetoed by the President but, alone of the 40 bills vetoed during this session, was repassed over his negative on the day before adjournment.

GOVERNMENT REORGANIZATION

In view of the fact that a similar bill may well come up again for Congressional consideration, a summary of the major provisions of the defeated Government Reorganization Bill deserves at least brief attention. With certain specified restrictions, particularly in regard to the Congressionally created independent commissions, the President was empowered by it to reorganize by executive order, after investigation, most of the executive agencies. A new Welfare Department was a part of the plan, as was the reallocation of certain divisions to departments more logically designed to understand and further the specific work of the divisions than those now in charge. A single administrator, to be appointed by the President with Senatorial consent, was to be substituted for the existing Civil Service Commission, and his duties were to include the preparation of plans for a Federal "career service," and the establishment and supervision of training programs. Moreover, the extension of Civil Service was to be a matter of executive discretion, except in cases where the office is filled by Presidential-Senatorial appointment. The auditing and controlling functions, at present united under the Comptroller General, were to be separated and the latter to be placed under an officer responsible to the President. The former would be limited to a post audit and would be in charge of a newly created General Auditing Office headed by an Auditor General, removable by and responsible to Congress. The failure of this bill, it will be remembered, constituted one of the major presidential defeats of the third session. Although narrowly passed by the Senate on March 28 (49–42), it was recommitted by the House on April 8 by a vote of 204–196.

HIGHWAYS

The scope of the Federal highway program may be seen in the provisions of the Federal Aid to Highways Act Amendment which authorizes the following appropriations:

Purpose	Amount	Year
A. Federal aid to states		
1. Rural post roads, etc.	$100,000,000	1940
	115,000,000	1941
2. Secondary or feeder roads	15,000,000	1940
	15,000,000	1941
B. Railroad crossing elimination	20,000,000	1940
	30,000,000	1941
C. Federal projects:		
1. Forest highways, roads, trails	10,000,000	1940
	13,000,000	1941
2. Roads, monuments, etc., in national parks	10,000,000	1940
	13,000,000	1941
3. Roads in Indian reservations and unreserved public lands	3,500,000	1940
	5,000,000	1941
Total	$349,500,000	

The Federal Aid to Roads system is becoming increasingly important, not only because of its fiscal extent, but also because of its control over the States. An anti-diversion amendment passed in previous years tries to limit the use of state gas and weight taxes to road purposes in any State which receives Federal aid. The vicious logic of this particularistic finance would have been carried further by an amendment excluding municipal streets entirely from state aid funds, which was fortunately defeated.

HOUSING

Mortgage Changes.—Federal Housing legislation may be considered under three general headings: (1) small home building, (2) larger mortgages, (3) slum clearance. The Steagall National Housing Act of 1938 amends the former law in several ways which even further encourage and facilitate the construction of small homes. It is no longer necessary that mortgages be offered for insurance within a year from their date of execution. On property appraised at $6,000 or less, mortgages are eligible for insurance up to 90% of the value. This is an increase of 10% over the former limit. On property valued between $6,000 and $10,000, mortgage insurance may be had on 90% of the first $6,000 and on 80% of the balance. Mortgages of over $16,000 are not insurable. Until July 1, 1939, mortgages on property appraised at $6,000 or less are acceptable if the maturity date is within 25 years. The former limit was 20 years. Interest charges have been reduced from 6% to 5%.

The period for insurable modernization loans on private homes has been extended until July, 1939, but such loans on multiple family houses, hotels, colleges, commercial institutions, etc. are no longer authorized.

Specific provisions for very large mortgages on commercial building are not contained in the Housing Act, although the broad lending powers given to the R.F.C. under the Glass Recovery Loan Act (see Miscellaneous Government Finance) may in effect cover a portion of this type of mortgage problem.

Slum Clearance.—The National Housing Act provides for rental housing insurance to cover projects designed to eliminate slums and substitute decent low-cost housing facilities. The mortgages of such projects may be either Federal, state, or municipal agencies, or private corporations or societies. The maximum mortgage per unit is $5,000,000, and the insurance is to cover 80% of the completed value of the property. A total of $800,000,000 in bonds may be issued by the Housing Authority to cover loans for this purpose, $500,000,000 having been authorized in 1937 and an additional $300,000,000 during the last session of Congress.

As under the previous Housing Act, the local agency is to select the site, and design, construct, and manage the project. When it has demonstrated the need of Federal assistance, has guaranteed to raise the 20% (formerly 10%) of the cost not supplied by the Housing Authority, and has promised to meet certain financial, labor, and construction standards set by the Federal agency, it is entitled to a loan of 80% of the total cost at low interest rates. In addition, the act specifies that the Federal Government will pay a fixed contribution each year, for which an extra annual appropriation of $28,000,000 was authorized this year, in order to assure rental charges low enough to bring this housing within the means of families most in need of better quarters. The balance of the subsidy necessary for this purpose is guaranteed by the local agency.

By the close of the last session, $357,874,000 had already been earmarked for 95 housing projects in 23 States and in Hawaii. The new National Housing Act had been passed by both House and Senate during the special session of 1937—by the House on Dec. 18 by the overwhelming vote of 267–30, by the Senate equally decisively on Dec. 21 (66–4). During the third session it remained only to approve the conference report. This the House did on Jan. 21 without a record; the Senate on Feb. 1 (42–40).

INTERSTATE COMPACTS

At least three more interstate compacts received Congressional sanction during the 1938 Session. South Dakota, North Dakota, and Minnesota were empowered to create a commission to study the joint problems of utilization, flood control, and stream pollution in connection with waters of the Red River of the north and its tributaries. The commission will recommend appropriate legislation to the respective legislatures.

The States bordering on the Great Lakes received permission to regulate, by compact, fishing in the waters of the Great Lakes; and Congress approved the Wyoming-Idaho compact for the "equitable apportionment" of the waters of the Snake River and tributaries in so far as non-participating States would not by the compact have their rights infringed or jeopardized.

MONOPOLIES

Thirteen inquiries of various types were authorized by Congress in its 1938 Session. Considered with a view to dramatic potentialities, there is a wide range from the unpretentious utility of a commission to study the possibility of a Canadian-Alaskan highway or the nature and extent of American phosphate resources to the economic dynamite of a monopoly investigation, or the pyrotechnic display of the Dies inquiry into un-American activities. Probably of most popular interests are the studies of monopolies and the T.V.A. investigation.

Strictly speaking, there are two "monopoly investigations." The Withrow Automobile Inquiry to be pursued by the Federal Trade Commission is primarily designed to study those policies of automobile manufacturers and distributors which affect the public interest, including the extent of monopoly in production and distribution, the nature of the monopolistic devices employed, the nature and extent of fraudulent or unfair practices, the system of financing retail purchases, and the actual violations of the anti-trust laws. Suggestions as to remedial legislation will be offered by the Commission after the study is completed.

In addition, the Temporary National Economic Committee, composed of 12 members representing both Houses of Congress and various executive departments, is conducting what is popularly known as "the monopoly investigation." This group is directed to study the concentration of economic power in, and financial control over, the general production and distribution of goods in order to determine the causes of such concentration, its effect on competition; the effect of the existing price system on trade, employment, profits and consumption; and the part played by present governmental policies in general upon competition, prices, employment, profits, and consumption. At the close of the year, this Committee had held some dramatic hearings.

TENNESSEE VALLEY AUTHORITY

A joint committee of five Senators and five Representatives was created to make a full investigation of the administration and policies of the Tennessee Valley Authority, and allocation and handling of Federal funds appropriated to the project, and the extent and effect of dissensions within the Board of Directors. Moreover the extent and nature of any activities by private interests to jeopardize the achievement of the Authority's goals are to be studied; the charges of fraudulent or clandestine actions by board members, to be probed; the existence or extent of collusion with large corporations to the disadvantage of municipalities and other corporations, to be checked; the alleged coercion of rural customers into buying expensive and unnecessary electrical equipment, to be investigated. In addition, the committee is to consider the fairness of Authority rates as a "yardstick" for private industry in view of differences in accounting methods and cost charges. Throughout the act setting up the committee there is repeated evidence that the investigation is to be, in part at least, a "personal investigation," a review of the respective policies and relative culpability of the majority and the minority of the Board of Directors. At the close of the year, most of the investigation was completed and it seemed likely that the committee's report would not be unfavorable to the T.V.A.

JUDICIARY

The appointment of four additional circuit judges, one additional associate justice for the District of Columbia Federal Court of Appeals, 12 additional district judges in 11 States, and three additional associate justices for the District of Columbia District Court, was authorized by the Hatch-Ashurst Judgeship Act.

LABOR

Fair Labor Standards Act.—Most important, of course, of the labor legislation passed during 1938 was the Fair Labor Standards Act, otherwise known as the Wages and Hours Act, which specifies the desirable standards and creates the mechanism for implementing the act. Passed in the Senate during the first session, reported out of House Committee on April 21, 1938, the Bill was debated, amended, passed by the House (314–97) on May 24, rejected in amended form by the Senate, debated, and conferred on practically until the hour of adjournment. The conference report received Senate and House approval June 14. In the former, no record vote was taken; in the latter, the results were 291 to 89. The interesting details of the technical management of this bill in Congress has been outlined above in the section on "Mechanism."

The most important provisions concern minimum wages, maximum hours, and child labor. The ultimate minimum wage, to be established within seven years, is 40 cents an hour. For the first year the minimum is to be 25 cents per hour; for the next six years, 30 cents. An eventual 40-hour week within two years is the goal of the act, with 44 hours the maximum for the first year and 42 the maximum for the second. Any overtime work is to be compensated at a rate of 1½ times the usual pay. However, the general hour provisions are subject to certain qualifications, particularly in cases where specific employer-employee contracts approved by the National Labor Relations Board exist, where annual wage agreements have been reached, and where work is of definitely seasonal-rush character as in canning or other similar businesses. Even in the case of these exceptions, however, certain annual or semi-annual limitations are set. Interstate shipments of goods produced under "oppressive" child labor conditions are prohibited. "Oppressive conditions," which are to be specifically determined by the Chief of the Children's Bureau of the Labor Department, are in general defined as: (1) the employment in industry, except by the parent, of any child under 16; (2) the employment of any child between the ages of 14 and 16 in *any* work which interferes with schooling or which is prejudicial to health or well-being; (3) the employment of persons between the ages of 16 and 18 in an industry hazardous or detrimental to health or well-being.

A Wage and Hour Division is set up in the Labor Department and the office of Administrator created. Industry committees for each interstate industry, on which employers, employees, and public are to be represented, are to be appointed by the Administrator. These committees in general will recommend classifications within their respective industries upon which can be based equitable wage rates which take into account differences in living costs and transportation costs, rates for the same work set by collective bargaining, etc. In addition there are sections listing exemptions from the Act and qualifications of its provisions. For instance, lower wage rates may be set for learners or apprentices.

The Railroad Unemployment Insurance Act sets up a system of unemployment insurance under the Railroad Retirement Board for railway employees, who are henceforth removed from the jurisdiction of state unemployment insurance systems. The state funds for this group are transferred to the Federal fund. Compensation depends upon the yearly wage of the beneficiary and ranges from a daily minimum of $1.75

to a daily maximum of $3. Payments will begin June 30, 1939. The plan is to be financed by a 3% employers' payroll tax and a 3% tax on employee representatives' salaries, both taxes to apply only to compensation under $300 per month.

Other Amendments.—In addition amendments were made to the Longshoremen's and Harbor Workers' Compensation Act extending benefits to dependents, and more clearly defining employers' liability and partial disability clauses. The Strike Breaking Act of 1936 was amended to prohibit the interstate transportation of strike breakers.

MERCHANT MARINE

The Merchant Marine Act of 1938 contains sections dealing with the control of rates in intercoastal service, the regulation of building and purchasing contracts, the establishment of a ship mortgage insurance fund, the financial powers of the Maritime Commission, the study of personnel training for the Merchant Marine, and the definition of acceptable working conditions on subsidized vessels. In addition, a three-member Maritime Labor Board is established whose function it will be to assist in framing, maintaining, and interpreting employer-employee agreements and to serve as arbitrator in controversies when requested to do so by both parties. However, all disputes involving unfair labor practices or employee representation remain within the jurisdiction of the N.L.R.B.

PROPAGANDA

The Propaganda Agency Act provides that every person, diplomats excepted, who is now or subsequently becomes an agent of any foreign principal, either public or private, must register with the Department of State, recording the name of his principal, the terms of his contract, the duration of his employment, his compensation, and the nature of his duties. "Foreign agent" is defined to mean public relations counsel, publicity agent, or representative of any foreign principal or any domestic organization subsidized by a foreign principal.

Any display of placards or banners or any assemblying without police permit, within 500 feet of a foreign diplomatic building, which is designed or tends to bring the foreign government there represented into disrepute is prohibited by the Pittman Embassy Picketing Act.

PUBLIC HEALTH

The Food, Drug and Cosmetics Act discussed above under "Business" is, of course, an important example of legislation in the general interest of public health. More specific in application is an act sponsored by Senator LaFollette authorizing the expenditure of $3,000,000 in 1939, $5,000,000 in 1940 and $7,000,000 in 1941 and each succeeding year for the purpose of aiding other governmental units in establishing and maintaining measures to prevent, treat, and control venereal disease. Within the scope of the act are investigations and research and the training of adequate personnel. The allotments to political subdivisions are to be made at the discretion of the Surgeon General and may be based on population, on extent of the venereal disease problem, or on financial need.

UNDISTRIBUTED PROFITS AND CAPITAL GAINS *

The Revenue Act of 1938 is of outstanding interest both because of its legislative history and because of its final content. Ultimately a compromise between a "conservative" House and a differently "conservative" Senate, the bill, even with conference modifications, remained so distasteful to the President that he refused to sign it. Public impression to the contrary notwithstanding there are other features in the law than the provisions concerning undistributed profits and capital gains, but public impression is quite correct in viewing these as the crucial issues around which centered the intra-congressional and legislative-executive conflicts.

The Committee on Ways and

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* For the summary of the Revenue Act the authors are greatly indebted to the excellent article entitled "The Revenue Act of 1938" by Roy G. Blakey and Gladys C. Blakey which appeared in the September, 1938, issue of the *American Economic Review.*

Means drafted a revenue bill which retained the principle of the undistributed profits tax but which restricted the tax to corporations having a net income of more than $25,000 and which modified it considerably even in regard to those. This bill, furthermore, effectually reduced the capital gains levy by providing that the taxable percentage of such gains should be decreased for each month over 13 and under 60 months that the asset had been held. The 1936 law had provided for only five classes: property held less than 1 year; that held from one to two years; that held from two to five years; that, from five to ten; and that, over ten years. This proposal also included a special surtax on closely held corporations, a measure sponsored by administration leaders to overcome the ineffectiveness of the previous penalties on unreasonable accumulation of earnings. The other provisions were less controversial and will be considered under the treatment of the final bill.

In the House this committee report was passed on March 11 by the overwhelming vote of 293 to 97 after one major and a few minor amendments had been made. Most important was the decisive defeat of the surtax on closely held corporations. An attempt to make up for the loss of revenue entailed in this action took the form of increased levy on distilled liquors and on imports of pork and pork products.

When the Revenue Bill reached the Senate in April, it was largely redrafted by the Finance Committee. Preëminent in significance was the total elimination of even the modified undistributed profits tax. Furthermore a flat tax on capital gains, similar to the one in effect from 1924 to 1932, was substituted for the graduated one proposed by the House, and, in order to obviate the need for the "closely held corporation" surtax the provisions regulating undue accumulation of earnings were tightened up. Most of the levies added by the House were rejected. Of special interest because of recent Supreme Court decisions was the provision, later dropped in the conference report, that future issues of Federal Government securities should not be exempt from Federal income tax. This revised bill of its Finance Committee was accepted, without a record vote and almost unanimously, by the Senate.

The conference report, accepted by the Senate May 9 and by the House May 11, involved compromises on several points. The most outstanding of these adjustments involved the acceptance of the House undistributed profits tax but the limitation of its effect to the years 1938–1939.

The act in its final form contains seven sections. Only minor modifications of previous laws are contained in three of these, those on personal holding companies, estate and gift taxes, and capital stock, while the fifth and sixth titles deal largely with technical and administrative details. Of the remaining sections one deals with excise taxes and repeals taxes on tooth paste, mouth washes, toilet soaps, furs, phonograph records, sporting goods, cameras and lenses, chewing gum, malt syrup, crude petroleum and on the refining of petroleum. A few other modifications are included, but the tax on all distilled spirits, except brandy, is increased from $2.00 to $2.25 per wine gallon.

INDIVIDUAL INCOMES

As was stated above, gains from the sale of capital assets by individuals were formerly included as taxable income at the following percentages: 100% if the property had been held one year or less; 80% if for more than one but not over two years; 60%, if held between two and five years; 40%, if more than five but less than ten years; and 30% if held for any period over ten years. Capital losses could be deducted at the same rate up to the amount of capital gains for the same year plus $2,000. By the new law there are three classes. "Short term capital gains" are those resulting from the sale of property held 18 months or less and these are to be included 100% in the estimate of taxable income. "Long term capital gains" are those resulting from sale of property held more than 18 months but not more than 24 months, and of these profits 66 2/3% is taxable; 50% of the gains resulting from sales of assets held more than two years is to be included.

Capital losses are divided into similar groups. "Short term" losses may be deducted from "short term" gains in computing the income tax, but not from regular income nor from "long term" gains. However, the balance of the loss, if the total exceeds the short term gains, may be carried over for application on the return of the following year to the extent that it does not exceed the regular income of the year in which the loss was experienced. Long term losses are deductible from long term gains but there is no provision for carrying over any balance of loss over gain.

Somewhat complicated alternative methods for determining the tax in cases of long term gains and losses are also authorized, the results of which are that the tax on short term gains cannot exceed 20% and that on long term gains 15%; and that the maximum deduction for long term capital loss is 15%.

CORPORATION INCOME

On net corporation income, the normal tax rate has been increased for all brackets, ranging from a 4½% increase (from 8 to 12½%) on corporations with a net income of less than $2,000 to a minimum increase of 6% on corporations whose income exceeds $25,000. For the last group, three possible methods of computation are provided, with the result that the tax rate may vary from 19% to 32%.

Special provisions are made for particular classes of corporations, for example, banks. A flat rate of 19% is laid on income of foreign corporations, and a few other similar exceptions to the general rule are included.

The excess profits tax remains unchanged from its 1936 rate: 6% for profits of 10% to 15%; 12% for those over 15%.

The penalty tax on undistributed net income of personal holding companies was considerably increased in 1937, from a minimum of 8% to a minimum of 65% on undistributed net incomes under $2,000 and from a sliding scale on amounts exceeding that figure to a flat rate of 75% on all above $2,000. No change in this revision was made in 1938.

The penalty surtax on improperly accumulated surplus was raised in 1938 from 15% on surplus up to $100,000 and 25% on surplus over that, to 25% and 35%, respectively, for those classes.

The most controversial change was that involving the undistributed profits tax. It was noted above that the new provision was limited to 1938–1939. There are two general aspects to the new law: first, the surtax on undistributed profits is now restricted to corporations with incomes of $25,000 or more; second, although the technical details of computation for the taxable portion have become considerably more complicated, the net result is that the maximum rate of taxation is 2½% whereas it was formerly 27%.

VETERANS

Further liberalization of veteran legislation is contained in two acts. One provides that benefits to widows and children of veterans receiving at time of death compensation for 15% disability shall not be denied because the veteran died of causes outside the line of duty. The other entitles all veterans of the Spanish American War, the Philippine Insurrection, and the Boxer Rebellion, who served 90 days and were honorably discharged, to a pension of $60 a month upon reaching the age of 65. Those blinded or otherwise disabled in those campaigns will receive $100 per month.

I. AMERICAN POLITICAL HISTORY

FEDERAL ADMINISTRATIVE AGENCIES

By John A. Tillema

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DEFEAT OF REORGANIZATION BILL

An outstanding event in the field of Federal administration was the defeat of the Reorganization Bill of 1938 by the House of Representatives on April 8 after it has been passed by the Senate. It provided for six executive assistants to the President to assist him to keep more intimately in touch with the activities and problems of the departments. It proposed to empower the President to link the various independent agencies of the National Government with the departments. It provided for the creation of two new and additional executive departments. It urged changes in the office and functions of the Comptroller General. It also provided for a reorganization of the Civil Service Administration.

Since this major proposal of the Roosevelt Administration was decisively defeated by the Congress, it follows naturally that there should have been relatively fewer changes in the administrative structure of the Federal government than during preceding years.

U.S. CIVIL SERVICE

The most noteworthy changes were probably made in the United States Civil Service Administration. In the language of the Civil Service Commission in its annual report, "President Roosevelt did two important things" by Executive Order: "1. He wrote the Civil Service rules and provided the authority for effective administration both in the process of selection and in the processes of management; and 2. He extended the competitive service to all the positions heretofore exempt which he had power to include, reserving only the right to provide such limited special exemptions as recognized exigencies make necessary."

On June 30, 1938, the total number of employees in the executive branch of the United States Government was 851,926. Of these, 562,909 or 66.1 per cent were in the classified service. Almost one-third of all the employees in the executive establishments were connected with the postal service. Slightly over 80 per cent of the employees in the executive branch are men. Of all the positions in the executive branch of the Federal Government something like seven-eighths are employed in the field services.

The merit system has made considerable gains during the year 1938. About 76.5 per cent of all executive employees at the beginning of 1939 are in the classified service as compared with 66.1 per cent on June 30, 1938. During the months from April to June, 1938, Congress enacted a number of statutes bringing within the competitive classified service several important agencies and groups of positions. By the Ramspeck-O'Mahoney Postmaster Act, approved June 25, 1938, 14,798 postmasterships of the first, second, and third classes will be filled by civil service methods on the expiration of the terms of the present incumbents. This act provides that, after certification by the Civil Service Commission, postmasters shall be appointed by the President by and with the advice and consent of the Senate. The entire staff of 408 positions in the National Archives was placed in the classified civil service by Act of May 23, 1938. The Appropriations Act of 1939 brought a number of positions, all in the divisions of the Department of Justice, into the classified service. The Act of June 25, 1938, establishing the Wage and Hour Division in the Department of Labor, placed all the positions in that Division within the classified service except that of the Administrator. The Railroad Unemployment Insurance Act of the same date placed all appointments in that service within the merit system including that of the Director of Unemployment Insurance who is to receive $10,000 a year.

Hostility of certain members of Congress to the merit system is reflected in the circumstance that 60 bills violative of the merit principle, of which nine became law, were introduced into the last and special session of Congress.

By a series of Executive Orders the President brought over 80,000 positions into the classified service. Executive Order No. 7916 extended the competitive system of appointments to all positions not exempted by legislation, except policy-determining positions and such other positions which special circumstances would make exemption desirable. This order also contains provisions designed to improve the service and to provide authority for improved personnel practices.

U.S. CIVIL SERVICE COMMISSION

Divisions of Personnel Supervision and Management, headed by a personnel director who is certified by the Civil Service Commission, are to be established by Feb. 1, 1939 in each of the ten executive departments and in such other services as might be designated by the President. These new personnel divisions are to supervise such matters as appointment, assignment, service ratings, and training of employees within the agencies. They are to establish means for the hearing of grievances of employees and to recommend improvements. Each of the new personnel chiefs is to be a member of the reorganized Council of Personnel Administration. The President has designated a number of agencies in which divisions of Personnel Supervision and Management are to be established. They are: Civil Aeronautic Authority, Civil Service Commission, Farm Credit Administration, General Accounting Office, Government Printing Office, Interstate Commerce Commission, the Panama Canal, Railroad Retirement Board, United States Housing Authority, United States Maritime Commission, the Veteran's Administration.

Supervision of the competitive promotion procedure and in-service training programs is given by executive order to the Civil Service Commission. Each department and designated agency also establishes its own program to fit its own needs subject to the advice and approval of the Civil Service Commission.

NEW CIVIL SERVICE RULES

The President also by Executive Order promulgated new civil service rules. They constitute a complete revision of the rules issued under the authority of the Civil Service Act of 1883. The new rules continue the provision that the normal life of a register, that is, the list of persons who have successfully passed an examination, shall be one year but gives the Commission the authority to extend time not more than one year, and after that only those who continue to meet the requirements of the examination will be retained. If experience constitutes part of the original rating, candidates are required to file additional evidence of experience. Those who fail to comply are to be dropped from the lists. The normal probationary period has been extended from six months to one year.

New leave regulations were issued on May 9, 1938. Retiring employees are now given the benefit of their full annual leave. Disabled employees are relieved of the previously required refunds for advanced sick or annual leave. The new rules also more specifically define the various classes of temporary, emergency, indefinite, and permanent employees in order to bring about a better operation of the leave regulations.

U.S. MARITIME COMMISSION

The United States Maritime Commission through its chairman, Emory S. Land, announced the details of a preliminary program which provides for the establishment of training schools for seamen on both the Atlantic and Pacific Coasts and ultimately on the Gulf of Mexico. The objective of the program is the training of an efficient personnel for the United States Merchant Marine. It is provided that the United States Coast Guard shall administer the training courses of the New Service under the supervision of the Maritime Commission. The Coast Guard was chosen by the Commission because of its record extending over many years of turning out excellent merchant seamen.

The Seaman's Training School on the Atlantic Coast will be located on Hoffman and Swinburne Islands in New York Harbor. The Pacific Coast School will be located at Government Island, Oakland, California. Later it is planned to establish a training school of merchant marine officers at the old Coast Guard base at Fort Trumbull, New London, Connecticut. The expectation is that the new schools will provide training for about 3,000 seamen and 300 officers annually. Both shore training and instruction afloat will be provided by the New Service.

Another new project under the supervision and control of the Maritime Commission is the Federal Ship Mortgage Insurance program. The Commission is authorized to insure preferred ship mortgages which secure new loans or advances made in aid of the construction, reconstruction, or reconditioning of all types of passenger, cargo, and combination passenger-cargo carrying vessels, tugs, towboats, barges, and dredges documented under the laws of the United States. Fishing vessels owned by citizens of the United States are also included if designed principally for commercial use (a) in the coastwise or intercoastal trade, (b) on the Great Lakes, or on bays, sounds, rivers, harbors, or inland lakes of the United States, (c) in foreign trade between the United States and foreign countries, and between the United States and all islands lying between the United States and the continent of South America, in the Gulf of Mexico, the Carribbean Sea or the Atlantic Ocean.

To obtain Federal Ship Mortgage Insurance both mortgagor and mortgagee must be approved by the Maritime Commission. They must be citizens of the United States. Generally speaking, the mortgagee must be a recognized and active lending institution such as a bank, a trust company, insurance company, or other institution which lends its own funds with the purpose of yielding an interest return.

In addition to other requirements, the Commission must be satisfied as to the suitability of the vessel for the commercial use for which it is designed and that it is the subject of a preferred mortgage. Consideration is also to be given to the suitability of the vessel for purposes of national defense. The amount of the secured obligations is not to exceed 75 per cent of the cost of construction, reconstruction, or reconditioning of the vessel.

The obligations must be amortized over a period not to exceed 20 years. The interest rate will be from five to six per cent depending on the area, mortgage market, and other circumstances. The Commission is authorized to charge a premium of one-half to one per cent for insuring the mortgage.

The Commission's obligation under its contract of insurance upon acquisition of the property by the mortgagee, after default and conveyance to the Commission, will be paid in debentures. These will bear interest at a rate determined by the Commission with the approval of the Secretary of the Treasury at the time the mortgage is offered for insurance and not to exceed three per cent. The debentures will be guaranteed unconditionally by the United States and will be tax exempt both as to principal and interest and will mature three years after the first day of July following the maturity date of the mortgage.

Fees may be imposed by the Commission for filing an application to cover the preliminary investigation as well as for services connected with the consideration of the application and final closing and recordation of the preferred mortgage. The aggregate of the charges need not exceed one-half of one per cent of the amount of the mortgage to be insured. The mortgagee may collect from the mortgagor all fees which the mortgagee is required to pay the Commission. The mortgagee, however, may not make any other charges without the approval of the Commission. No fees may be paid to any person for obtaining a commitment to insure or contract of insurance except as approved by the Commission. *Bona fide* brokerage commissions for services rendered in negotiating may be paid provided disclosure thereof is made in the application and the amount appears reasonable to the Commission.

RAILROAD UNEMPLOYMENT INSURANCE

The Railroad Unemployment Insurance goes into effect, both with respect to the payment of benefits and the collection of contributions, on July 9, 1939. To be eligible for benefits an unemployed person must have earned $150 in compensation from covered employment within the appropriate calendar year known as the base year. If the benefit year begins on or after July 1 of any calendar year, the base year is the next preceding calendar year. If the benefit year begins prior to July 1, the base year is the next to the last completed calendar year. The employee must also have had, within six months preceding the beginning of the benefit year, a waiting period of 15 consecutive days of unemployment or two half months which need not be consecutive in each of which there were at least eight days of unemployment for which benefits were not paid.

Employees will be disqualified from the receipt of benefits for varying periods for such reasons as leaving suitable work without cause, being discharged or suspended for misconduct related to their work or refusing to accept suitable work offered.

The amount of benefit thus to be paid to any employee during a half month is determined by multiplying rates varying from $1.75 to $3 by the number of days of unemployment in excess of seven days during the half month. The daily rate of benefit and the maximum amount of benefit applicable to an employee during his benefit year varies with the amount of covered employment during the base year.

Contributions are payable by covered employers at the rate of three per cent of compensation payable to employees, excluding any amount in excess of $300 a month payable to any employee. The contributions are to be collected by the Railroad Retirement Board. For the payment of benefits 90 per cent of the contributions will be credited to a special account known as the Railroad Unemployment Insurance Account to be maintained in the Unemployment Trust Fund established under the Social Security Act. Of the contributions collected 10 per cent is to be deposited in a special fund known as the Railroad Unemployment Insurance Administration Fund. The fund is to meet the cost of administering the Railroad Unemployment Insurance Act. Until July 1, 1939 every unemployed railroad worker should immediately register for work and file a claim for benefits under the unemployment compensation law of his State at the nearest office of his state employment service. After July 1, 1939, an unemployed railroad worker should apply to an employment office to be designated by the Railroad Retirement Board.

COMMODITY CREDIT CORPORATION

The Commodity Credit Corporation has an authorized and paid-in capital of $100,000,000. Prior to July 15, 1938, the Corporation made loans on cotton, corn, gum turpentine, and gums resin, wool and mohair, wheat, peanuts, tobacco, raisins, dates, figs, prunes, and butter.

Under the provisions of the Act of March 8, 1938, the Secretary of the Treasury is required to make an appraisal of all assets and liabilities of the Corporation as of March 31 of each year for the purpose of determining its net worth and in the event that an appraisal established a net worth of less than $100,000.000 the

Secretary of the Treasury is required on behalf of the United States, subject to the appropriation of funds thereby, to restore the amount of such capital impairment. In the event that the net worth of the Corporation is in excess of $100,000,000 as of March 31 of any year, such excess shall be deposited in the Treasury by the Commodity Credit Corporation to be credited to miscellaneous receipts.

Under the Act of March 8, 1938 the Corporation is authorized with the approval of the Secretary of the Treasury to issue and have outstanding at any one time bonds and debentures or other similar obligations in an aggregate not exceeding $500,000,000. Such obligations when issued in pursuance of the act are fully and unconditionally guaranteed both as to principal and interest by the United States and the income therefrom is exempt from Federal, state, and local taxation, except estate, inheritance, gift, and surtaxes.

PUBLIC HEALTH SERVICE

An appropriation of $1,000,000 was made for the year 1938 for expenditure by the Public Health Service for the investigation of diseases and problems of sanitation.

FEDERAL CROP INSURANCE CORPORATION

The Federal Crop Insurance Corporation was created within the Department of Agriculture by the Agricultural Adjustment Act of 1938. The act authorized the subscription by the United States Government of $100,000,000 as capital stock for the Corporation, but provided that the appropriations for the first year should not exceed $20,000,000 and an annual appropriation not to exceed $6,000,000 for administrative costs of the project. The purpose of the Corporation is to administer the provision of Title Y of the Agricultural Adjustment Act of 1928 designated as the Federal Crop Insurance Act. It provides for the wheat crop insurance applicable to the wheat harvest of 1939 and for research to be conducted with the view of applying insurance to the other forms of crops.

The Crop Insurance program aims to help wheat farmers to avoid future large losses by setting aside part of each year's production. It insures 50 or 75 per cent of the past average yield against losses from unavoidable causes such as drought, floods, hail, wind, winterkill, lightning, tornadoes, insects, and plant diseases. Premiums are calculated for each farm according to that farm's risk. The Corporation has its offices in Washington, D.C. The management is vested in a Board of Directors which appoints a manager and secretary. State and local organizations already functioning under the Agricultural Adjustment Administration may be used or new local organizations may be established to carry out the provisions of the Crop Insurance Act.

FEDERAL SURPLUS COMMODITIES CORPORATION

Approximately $54,000,000 was expended during the year 1937–38 for the diversion of surplus agricultural products. Over 40 different commodities were distributed to state welfare agencies.

Also 18 different diversion programs were in use to develop new uses, encourage new domestic markets and exports. More than 1,000,000,000 pounds of foodstuffs were distributed to welfare agencies by the Federal Surplus Commodities Corporation. They were given to families certified to be on relief. For the fiscal year 1938–39 the Secretary of Agriculture will have available about $79,000,000 for surplus removal and diversion operations. Part of the total appropriation is set aside for cotton price adjustment payments.

ELECTRIC POWER

The Department of the Interior reported that the Federal development of the vast hydro-electric resources of the Columbia River had materialized after five years of construction. The initial power from the Bonneville project has been delivered to two nearby cities, Cascade Locks, Ore., and North Bonneville, Wash. Both cities will pay for the power at the rate of $17.50 per kilowatt-year which is to be the uniform wholesale charge for electricity everywhere on a broad Federal network. To continuous users for manufacturing purposes a price of about one and one-half mills per kilowatt-hour is contemplated.

FEDERAL TRADE COMMISSION

The Federal Trade Commission in its completed report to Congress on the agricultural implement and machinery investigation recommended an amendment to the Clayton Act to make illegal the acquisition by large corporations of the stock or assets of competing corporations. It pointed to a concentration of control in the farm machinery industry in a very few large companies. The report stressed the serious monopolistic conditions of the industry which it contends is reflected in prices, profits, and practices.

WORKS PROGRESS ADMINISTRATION

By the Emergency Relief Appropriation Act of 1938, the Works Progress Administration and the National Youth Administration were extended until June 30, 1939. The same act vested the Federal Administrator of the Works Progress Administration with authority to prescribe rules and regulations necessary to carry out the purposes of the act in so far as it relates to the Works Progress Administration, including the allocations of the Administrator to other Federal agencies. The Emergency Relief Appropriation Act of 1938 provides funds for relief and work relief under which the Works Progress Administration is currently operated. The act makes available $1,425,000,000 together with unexpended balances of W.P.A. allocations remaining from the Emergency Relief Appropriation Act of 1937 and the joint resolution of March 2, 1938. The funds are available for the following public projects: highways, roads and streets, $84,500,000; public buildings, parks, and recreation facilities; public utilities electric transmission and distribution lines or systems to serve persons in rural areas, including projects sponsored by nonprofit and cooperative associations; sewer systems, water supply and purification systems; airports and other transportation facilities; flood control drainage, irrigation, and conservation; eradication of insect pests; projects for the production of lime and morle in Wisconsin for fertilizing soil, and miscellaneous construction projects, $655,500,000; and finally for educational, professional, clerical, cultural, recreational services including training for domestic service and miscellaneous non-construction projects, $285,000,000. The amount specified by any of the classes may not be increased by more than 15 per cent by transfer from any other class or classes. Projects of the Works Progress Administration are proposed by state and local public agencies and, in a few instances, by Federal agencies which act as sponsors. The sponsor agencies are required to pay a proportion of the cost of the projects.

THE SUPREME COURT AND CONSTITUTIONAL LAW

By Benjamin Werne

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DISCRIMINATION IN REINSTATEMENT OF STRIKING EMPLOYEES

One of the outstanding contributions of the Supreme Court at its October term, 1937 was the development of the interpretation of the National Labor Relations Act. In the course of the preceding term, five cases had been heard and the decisions had resulted in laying the foundation upon which later decisions might rest. (See The American Year Book, 1937, pp. 37 ff.)

In the Jones & Laughlin case the

Court had reviewed the general constitutionality of the law under consideration, the power of Congress to enact such a measure, the appropriateness of the procedure established, the propriety of the delegation of judicial power to the administrative agency, the jurisdiction of the National Labor Relations Board, and the validity of the statute as applied in that instance. The remaining cases were decided on the authority of the Jones & Laughlin decision, following findings, in each instance, that dedendant was properly engaged directly in interstate intercourse, or predominantly engaged in the importation of raw materials and the exportation of finished products across state lines.

In *National Labor Relations Board v. Mackay Radio & Telegraph Co.,* 304 U.S. 333, it was held that, under the National Labor Relations Act, it is an unfair labor practice for an employer subject to the act to discriminate against striking employees by reinstating some but refusing to reinstate others on the ground that they have been active in a labor union. The Board has power, in such cases, to order the employer to cease and desist from the practice, to order reinstatement of the employees against whom the discrimination is made without prejudice, and to award back pay.

In dealing with the respondent's contention that there was no unfair labor practice, Mr. Justice Roberts recognizes that the company undertook to negotiate with the union representatives and that it had a right to replace the striking employees in order to carry on the business. But he concludes that the refusal to reinstate the five on the sole ground of their union activities was a discrimination prohibited by Section 8, and that the finding in this respect was supported by evidence. In this connection the Court says:

"As we have said, the respondent was not bound to displace men hired to take the strikers' places in order to provide positions for them. It might have refused reinstatement on the grounds of skill or ability but the Board found that it did not do so. It might have resorted to any one of a number of methods of determining which of its striking employees would have to wait because five men had taken permanent positions during the strike but it is found that the preparation and use of the list, and the action taken by respondent, was with the purpose to discriminate against those most active in the union. There is evidence to support these findings."

No violation of the Fifth Amendment was found in the provision of the act continuing the employment relationship in the case of a strike in consequence of a labor dispute.

In the Greyhound cases the Board presented the question whether it was empowered to require the respondents to disestablish company-dominated unions as representatives of employees for purposes of collective bargaining and to post notices to that effect. The Supreme Court ruled that the Board might order a respondent to take any affirmative actions which would effectuate the policies set forth in Section 1 of the act provided that it is shown by evidence that such action is necessary and that the remedy applied by the Board bears a reasonable relation to the action prosecuted and the end sought to be attained. (303 U.S. 261; 303 U.S. 272.)

JURISDICTION OF LABOR BOARD

In *Santa Cruz Fruit Packing v. National Labor Relations Board,* 303 U.S. 453, the Court held that the National Labor Relations Board has jurisdiction over a dispute involving unfair labor practices by a fruit packing company, even though the raw materials used in the business are obtained from the State wherein the packing is carried on, where it is shown that a substantial portion of the company's products is habitually shipped in interstate and foreign commerce, and the existence of unfair labor practices has a direct and injurious effect on interstate commerce.

The petitioner in that case contended that its business of manufacturing and processing was a local activity so that the Board has no jurisdiction over labor disputes in which it was involved. In rejecting the petitioner's contention, Mr. Chief Justice Hughes stated that there was no question that the petitioner was engaged directly in interstate and foreign commerce in selling goods for delivery to purchasers in other States. He noted that it has often been decided that sales to persons in another State are not withdrawn from Federal control because the goods are delivered f.o.b. at stated points within the State of origin for transportation.

The opinion states further that the power of Congress extends not only to rules governing sales in interstate commerce, but also to other phases, including protection of such commerce from obstructions. In this connection, the Chief Justice said:

"The power of Congress extends not only to the making of rules governing sales of petitioner's products in interstate commerce, as, for example, with respect to misbranding under the Federal Food and Drugs Act (21 U.S.C., Sections 1 to 26), or with respect to forbidden discriminations in prices under the Clayton Act (15 U.S.C. 13), but also to the protection of that interstate commerce from burdens, obstructions and interruptions, whatever may be their source. . . . The close and intimate effect which brings the subject within the reach of Federal power may be due to activities in relation to productive industry, although that industry when separately viewed is local. It is upon this well-established principle that the constitutional validity of the National Labor Relations Act has been sustained."

The Court rejected the petitioner's contention that the activities here are beyond the reach of Federal power because the raw materials are produced within the State, so that the manufacture is a mere incident to a continuous flow of interstate commerce. It recognized the principle that, where Federal control is to be sustained over an activity which, separately considered, would be intrastate, a close and substantial relation to interstate commerce must be shown. The difficulty of formulating any precise formula to guide in the application of this principle was discussed. As to this feature, the opinion states:

"To express this essential distinction, 'direct' has been contrasted with 'indirect', and what is 'remote' or 'distant' with what is 'close and substantial.' Whatever terminology is used, the criterion is necessarily one of degree and must be so defined. This does not satisfy those who seek for mathematical or rigid formulas. But such formulas are not provided by the great concepts of the Constitution such as 'interstate commerce,' 'due process,' 'equal protection.' In maintaining the balance of the constitutional grants and limitations, it is inevitable that we should define their applications in the gradual process of inclusion and exclusion.

"There is thus no point in the instant case in a demand for the drawing of a mathematical line. And what is reasonably clear in a particular application is not to be overborne by the simple and familiar dialectic of suggesting doubtful and extreme cases. The critical words of the provision of the National Labor Relations Act in dealing with the described labor practices are 'affecting commerce,' as defined (Sec. 2 (6)). It is plain that the provision cannot be applied by a mere reference to percentages and the fact that petitioner's sales in interstate and foreign commerce amounted to 37 per cent, and not to more than 50 per cent, of its production cannot be deemed controlling. The question that must be faced under the Act upon particular facts is whether the unfair labor practices involved have such a close and substantial relation to the freedom of interstate commerce from injurious restraint that these practices may constitutionally be made the subject of Federal cognizance through provisions looking to the peaceable adjustment of labor disputes."

The power of Congress to regulate labor relations affecting interstate commerce extends to a utility company whose activities are predominantly intrastate but which supplies electric energy to the Federal Government and to numerous parties engaged in interstate and foreign commerce, and the National Labor Relations Board has power to require such utility company to cease and desist from unfair labor practices condemned by the National Labor Relations Act. An order of the Board, as to matters within its jurisdiction, will not be set aside where the findings on which it rests are supported by substantial evidence, and no violation of procedural due process is shown. But the Board has no power to make punitive orders, and has no authority to invalidate collective bargaining contracts between an employer and independent labor organizations. (*Consolidated Edison Company of New York et al v. National Labor Relations Board et al.,* 59 Sup. Ct. 206).

The Court states that the findings of the Board and the provisions of its order requiring the companies to desist from carrying out the contracts with the Brotherhood present questions of major importance. These questions are approached in the light of three cardinal considerations: (a) the fact that the Brotherhood and its locals are independent labor organizations affiliated with the American Federation of Labor and are not controlled by the employer companies; (b) the fact that the contracts in question recognize collective bargaining and the Brotherhood as a collective bargaining agency for employees belonging to it and that the Brotherhood agrees not to intimidate or coerce employees into membership and not to solicit membership on the time or properties of the companies; and (c) the fact that the contracts contain important provisions respecting hours, working conditions, wages, sickness, disability, etc., and provide against strikes and lockouts and for the adjustment and arbitration of labor disputes.

The Court observes further that no contention was made that the contracts were unreasonable or oppressive but, on the contrary, that it was virtually conceded that they were fair to employers and employees. It was noted, moreover, that the evidence showed that the Brotherhood and its locals comprise over 38,000 eligible for membership. The Brotherhood and its locals contended that they were indispensable parties and that in the absence of legal notice to them or their appearance the Board was without authority to invalidate the contracts.

JURISDICTION OF DISTRICT COURTS TO ENJOIN LABOR BOARD

Under the National Labor Relations Act, the United States District Courts have no jurisdiction to enjoin proceedings of the National Labor Relations Board on complaints of unfair labor practices, even though the party seeking injunctive relief alleges that interstate commerce is not involved in the transactions under investigation. Congress has vested jurisdiction in respect of that subject matter in the National Labor Relations Board and judicial review of its actions is vested in the Circuit Courts of Appeals. (*Myers et al. v. Bethlehem Shipbuilding Corp., Ltd.,* 58 Sup. Ct. 459; *Newport News Shipbuilding and Dry Dock Co. v. Schauffler,* 58 Sup. Ct. 466).

On the day fixed for the hearing, the corporation filed a bill in equity in a Federal District Court in Massachusetts seeking to enjoin the holding of a hearing on the complaint in question. Another bill in equity involving similar facts and contentions was filed by certain employees of the corporation and officers of the labor organization said to be dominated by the company.

The District Court issued a restraining order and, later, a preliminary injunction. Its decrees were affirmed by the Circuit Court. On certiorari, the Supreme Court ruled that the District Court was without power to enjoin the Board from holding hearings. Mr. Justice Brandeis, in delivering the opinion of the Court, first pointed out that there was no claim that the statutory provisions or rules of procedure are illegal, or that the corporation was not given ample opportunity to answer the complaint or to contest the charges;

but that the claim was that the provisions of the law are not applicable to the corporation's business at the plant in question because the operations there are not carried on and the products manufactured there are not sold in interstate or foreign commerce. It was argued that the corporation's relations with its employees did not burden or interfere with interstate or foreign commerce; that hearings would be futile; and that such hearings would result in irreparable damage to the employer, not only by reason of direct cost and loss of time, but also because of impairment of the good will and harmonious relations existing between the employer and the employees.

These contentions were rejected on the ground that the power to deal with the matter has been vested in the Board and in the District Courts of Appeals. As to this, Mr. Justice Brandeis said: "The District Court is without jurisdiction to enjoin hearings because the power 'to prevent any person from engaging in any unfair practice affecting commerce' has been vested by Congress in the Board and the Circuit Court of Appeals, and Congress has declared: 'This power shall be exclusive, and shall not be affected by any other means of adjustment or prevention that has been or may be established by agreement, code, law, or otherwise.' The grant of that exclusive power is constitutional, because the Act provided for appropriate procedure before the Board and in the review by the Circuit Court of Appeals on adequate opportunity to secure judicial protection against possible illegal action on the part of the Board. No power to enforce an order is conferred upon the Board. To secure enforcement, the Board must apply to a Circuit Court of Appeals for its affirmance. And until the Board's order has been affirmed by the appropriate Circuit Court of Appeals, no penalty accrues for disobeying it. The independent right to apply to a Circuit Court of Appeals to have an order set aside is conferred upon any party aggrieved by the proceeding before the Board. The Board is even without power to enforce obedience to its subpoena to testify or to produce written evidence. To enforce obedience it must apply to a District Court; and to such an application appropriate defence may be made."

JUDICIAL REVIEW OF ORDERS OF LABOR RELATIONS BOARD

Under the National Labor Relations Act jurisdiction to review orders of the National Labor Relations Board is vested in the circuit courts of appeals. The Court does not acquire jurisdiction to review such an order until both a petition for review and a transcript of the Board's proceedings have been filed in the Court. Until such petition and transcript have been filed in Court, the Board has power to vacate or modify its order. (*In re Petition of National Labor Relations Board,* 82 Adv. Op. 987; 58 Sup. Ct. 1001). Construing the provisions of the act and pointing out that they contemplate that the Board shall have authority to modify its orders until a transcript shall have been filed in the Circuit Court, Mr. Justice Roberts says:

"The Board's proceedings are administrative in character. Its final action is subject to judicial review in the manner specified in the Act. Subsection (d) of Section 10, in plain terms, invests the Board with authority, at any time before the transcript shall have been filed in court, to modify or set aside its order in whole or in part. The purpose of the provision obviously is to afford an opportunity to correct errors or to consider new evidence which would render the order inadequate or unjust. The words used are 'Until a transcript of the record . . . shall have been filed in a court, as hereinafter provided,' the Board may vacate or modify. The following sub-sections (e) and (f), are those to which we turn for the connotation of the qualifying phrase. Subsection (e) grants the Board resort to a court for the enforcement of its order. That enforcement is to be obtained by filing a petition for enforcement and filing a certified transcript of the Board's proceedings. The subsection proceeds: 'Upon such filing, the court shall cause notice thereof to be served upon' the person against whom enforcement is asked. Here it is quite plain that the court is without jurisdiction to take action at the behest of the Board until the transcript shall have been filed and notice of the filing of the petition and the transcript has been served. Subsection (f) affords relief to 'any person aggrieved by a final order of the Board granting or denying in whole or in part the relief sought,' . . . Such a person, the statute declares 'may obtain a review' of the Board's order by filing in court 'a writ on petition praying that the order of the Board be modified or set aside.' A copy of the petition is to be served forthwith upon the Board, and 'thereupon the aggrieved party shall file in the court a transcript' of the Board's proceedings. 'Upon such filing, the court shall proceed in the same manner as in the case of an application by the Board under subsection (e),' . . . Plainly the court may not proceed to review the Board's order under either section until a transcript is filed."

RIGHT TO PICKET IN NON-LABOR DISPUTE

In *Lauf v. Shinner* (303 U.S. 323) the Supreme Court expressly upheld the constitutionality of the Norris-La Guardia Act in so far as it restricted the jurisdiction of the Federal court. Mr. Justice Roberts said, without expressing any opinion on the legality under Wisconsin law of the acts complained of nor of the constitutionally of the law, that the Federal court had no greater power to enjoin acts committed within a State than the state court itself would have had.

New Negro Alliance v. Sanitary Grocery Co. (303 U.S. 552) involved primarily a construction of the same law. The plaintiff operated a large number of retail grocery stores in the District of Columbia, some of which are largely dependent on negro patronage. The defendant, a corporation composed solely of colored persons not associated with any labor organization, is "organized for the mutual improvement of its members." The plaintiff refused a request of the defendant to adopt a policy of employing colored help in certain of its stores. The defendant thereafter began an organized peaceful patrol of the premises of one of the plaintiff's stores and threatened a similar patrol of two others. The pickets carried placards stating: "Do Your Part! Buy Where You Can Work! No Negroes Employed Here!" The plaintiff sought an injunction restraining the picketing. The district court granted the injunction. The court of appeals, in affirming the decree, held that the case did not involve or grow out of a labor dispute within the meaning of the Norris-LaGuardia Act. The Supreme Court (two justices dissenting) reversed. Even though the dispute is "racial," there exists a labor dispute within Section 13 of the Norris-LaGuardia Act, prohibiting injunctive relief.

The Court in the present case, by its broad interpretation of the Norris-LaGuardia Act, again illustrates the technique with which the judiciary interprets legislative enactments in order to reach the favored result. The Court felt that the strong social justification for a limitation of injunctive relief against trade unions applies equally to non-labor organizations, and that, therefore, under the act like treatment should be accorded both groups. The definition of a labor dispute in Section 13 relied upon by the Court should be construed in conformity with Section 2. That section clearly indicates that the statute was intended to aid labor in organizing and to obtain collectively increased wages, shorter hours, and a betterment of working conditions. It is indeed questionable, therefore, whether the act should permit its application to this dispute in which the defendants do not seek a betterment of conditions of employment, but simply seek the employment on whatever terms it comes.

Even though in this case the Court had found the controversy not a labor dispute within the meaning of the act, the question whether an injunction should issue would not have been foreclosed. In those jurisdictions where peaceful picketing is illegal if no strike is in progress, it would be difficult to justify picketing by a non-labor group. Where, however, peaceful picketing in the absence of a strike has received judicial sanction, it would seem that picketing by a group unassociated with organized labor is not unlawful where there exist considerations in favor of extending such privileges that are equally as compelling as those existent in a labor dispute. The results have varied in the non-labor cases, but where tenants picketed in an effort to procure lower rents it was felt that the social gain outweighed the commensurate loss inflicted on the landlord. Likewise an injunction was denied where an association of retail cleaners picketed a rival dealer to protest against the violation of an NIRA code. The same method was stamped with approval when employed by a theater owner against a scalper, and by consumers protesting against excessive prices. Just where the line must be drawn in denying injunctive relief in disputes of this type is of necessity rather tenuous, but it is apparent that each case must be decided on its own facts in light of the advantage to be derived by the community balanced against the injury befalling the complainant.

Although the courts have protected interests similar to that in the instant case, there are considerations which may distinguish the racial dispute. There is a substantial likelihood that race riots and reprisals might result from the prejudice incited.

DIRECT APPEALS IN LABOR DISPUTES

International Ladies' Garment Workers' Union et al. v. Donnelly Garment Co, et al. (58 Sup. Ct. Rep. 875) was an appeal from a three judge district court which denied a motion to dismiss a complaint and granted an interlocutory injunction in a suit to restrain the union from interfering with plaintiff's business by picketing and boycotting on the ground that these union activities constituted a conspiracy in violation of the Anti-Trust Acts. Plaintiff contended that defendants were not engaged in a "labor dispute" within the meaning of the Norris-LaGuardia Act which would have deprived the court of jurisdiction and that that statute was, therefore, inapplicable and that if the course of conduct complained of were construed to be a "labor dispute" the statute would be unconstitutional under the Fifth Amendment. In accordance with Section 2 of the Act of August 24, 1937, the Attorney General was notified that the constitutionality of an act of Congress was drawn in question. The question before the Supreme Court was whether this direct appeal was authorized under the provisions of Section 3 of the 1937 act which provides that no interlocutory injunction suspending or restraining the enforcement, operation or execution or setting aside any act of Congress on constitutional grounds shall be granted except by a three judge court, and which permits a direct appeal to the Supreme Court from decrees granting or denying an interlocutory injunction in such a case.

The *per curiam* opinion concludes that the case does not fall within these provisions of the 1937 act, since it was not a suit to restrain the enforcement of an act of Congress and no application was made for an injunction for that purpose. The direct appeal was therefore unauthorized.

REGISTRATION OF INTERSTATE PUBLIC UTILITY HOLDING COMPANIES

The Securities and Exchange Commission sued to enjoin the Electric Bond & Share Company and corporate affiliates from violating Section 4 (a) of the Public Utility Holding Company Act of 1935 unless they registered pursuant to Section 5 thereof. Section 4 (a) prohibits unregistered utility holding companies from making specified uses of the instrumentalities of interstate commerce and the mails and from owning or holding with power to vote any security of any subsidiary that does any of the specified forbidden acts. Section 5 provides for registration by a form of notification to the Commission and provides for the filing by registered companies of registration statements containing information concerning their capitalization and relations with subsidiaries. On a cross bill, the defendants sought a declaratory judgment of the invalidity of the entire act. The Court held that the defendants are engaged in interstate commerce, the registration provision is severable, and it is a valid regulation of interstate commerce (*Electric Bond & Share Co. v. Securities & Exchange Commission,* 303 U.S. 419).

The defendants were engaged in transactions in interstate commerce of which the regulation is entrusted to Congress. Although the mere use of an interstate commerce instrumentality does not necessarily subject the entire business of the defendant to Federal regulation under the commerce power, Congress may appropriately condition the use of the instrumentality. Interstate commerce embraces the purchase of materials and equipment to be sent across state lines; the consolidation of small shipments of goods, after interstate shipment has begun, into carload quantities; sending out employees to visit properties of local companies in the rendition of engineering services to operating companies; and the shipment of plans, booklets, pamphlets, instructions and advertising material and continuous communication across state lines. Numerous operating subsidiaries, located outside of New York State, received managerial, financing, engineering, and supervisory services from a large centralized executive and technical staff maintained by a subsidiary in New York City. The rendition of these services involved the transportation of books, papers, securities, accountants, supplies and materials across state lines. These continuous and extensive operations in interstate commerce sufficed to bring the defendants within the purview of the statute.

The validity of the registration provision only was in controversy although the defendants sought an adjudication of the validity of the entire act. Congress had declared its intent as to severability. Examination of the statute, moreover, disclosed no practical difficulty in the independent enforcement of the registration requirement. Also, Congress, by an independent statute, could have required registration and full disclosure of information as to corporation structures and activities. The registration provision only requires "a disclosure of information" and permits "publicity" thereof. It thus constitutes a "control provision." The fact that it is incorporated in a statute which imposes numerous regulations subsequent to registration does not deprive it of its character to stand alone.

The power of Congress to "regulate" is the power to prescribe the rules under which interstate commerce may be engaged. It is addressed to practices which appear to need supervision, correction, or control. Congress found that service contracts are tainted with fraud because they are consummated in the absence of arm's-length bargaining. It further found that they are against the national public interest in that burdens are imposed on interstate commerce. Section 4 (a) appropriately provides that the instrumentalities of interstate commerce and the mails shall be closed to unregistered public utility holding companies in the negotiation, transactions, and uses leading up to and growing out of such service contracts. Congress also has a proprietary interest in the postal system and can exclude therefrom what is objectionable to the public policy. It may forbid the use of the mails to promote lotteries or schemes to defraud. The Securities Act of 1933 forbids the mailing of unregistered securities and one court has held that it is not an unreasonable regulation to compel all securities to be registered before mailing without a prior determination as to whether any particular security is fraudulent. That Congress may require a full disclosure of pertinent information as a condition precedent to the use of the mails is illustrated in the statute relating to newspapers and periodicals enjoying the privileges accorded to second class mail, which requires an annual publication of the names and addresses of the owner, publisher, and other information. Regulation requiring the submission of information is "a familiar statutory control."

The holding validates only the power of Congress to require registration. But registration subjects the company to the positive control of the Commission for the purpose of putting other provisions of the statute into effect. Registration is made the vehicle for the imposition of affirmative regulations, *e.g.* prohibits upstream loans, etc.

JURY REVIEW OF RATE FIXING

Pursuant to Texas law, a new and substantially lower domestic gas rate was fixed by the City Council of Laredo, which was revised upward by the Railroad Commission after a full hearing. The company then applied to the Federal District Court for an injunction to restrain enforcement of the Commission's order, whereupon the Commission instituted suit in the District Court of Travis County for the purpose of protecting the jurisdiction of the state court and of enforcing the Commission's order if determined to be valid. A trial *de novo* was had before a jury as provided by statute over the objections of appellant which asked to have the cause determined by the court. Appellant then asked for special findings by the jury as to property value, going value, and certain other items, which request was denied. The trial court submitted to the jury a single special issue: "Do you find that the order of the Railroad Commission of Texas . . . providing for a fifty-five cent gas rate to residential consumers within the city of Laredo, Texas under the facts introduced in evidence before you is unreasonable and unjust to defendant United Gas Public Service Company? Answer " 'yes' or 'no'." The court prefaced this submission with a full definition of the factors which must be considered in a confiscation case in *Smyth v. Ames*, 169 U.S. 466 (1898). Judgment for the Commission was entered on the jury's negative answer to the question, which judgment was affirmed by the Court of Civil Appeals.

On appeal to the Supreme Court, appellant contended that in the state proceedings it had been denied procedural due process and that the rate prescribed was confiscatory. The Supreme Court (two judges dissenting) held there was no denial of due process in the State's providing for a jury trial, nor was appellant denied any Federal right in not being allowed to have special issues submitted to the jury. On the question of confiscation, the evidence supports the validity of the rate set by the Commission. (*United Gas Public Service Co. v. Texas,* 303 U.S. 123).

A large part of Mr. Justice Black's concurring opinion, after reiterating his view that the corporation in the present case has no rights protected by the 14th Amendment, was devoted to a discussion of the importance of operating expenses on the question of confiscation. Though payments to affiliates constituted a large item in the company's total expenses, it refused to give any detailed data on the cost of services rendered or to testify fully as to salaries of officials. Where a utility whose expenses are in large part incurred through intercompany dealings is attacking a rate regulation, Mr. Justice Black says that ". . . the strong presumption of the validity of these rates—fixed by a state—can be overcome only by proof that each expenditure alleged to have been made or incurred by or through an associate or affiliate, was in fact so made or incurred and was fair and reasonable."

That payments to associated companies for certain services are to be carefully scrutinized and when attacked must be established to be based on reasonable cost to the associate in question has been the law since *Smith v. Illinois Bell Telephone Co.,* 282 U.S. 133 (1930). Recognition of the necessity of checking possibly exorbitant salaries of officials before invalidating a rate of return as unfair came even earlier. By using a rate base which was $125,000 lower than that set by the Commission, as a result of excluding from the property valuation certain pipe lines no longer in use, the Court was able to hold the rate order not confiscatory, even assuming that the company was entitled to sufficient revenue to meet questionable operating expenses. In this situation, the majority apparently felt there was no need to reaffirm the earlier decisions in regard to operating expenses. But the concurring opinion may be important as an indication that the new justice will demand more detailed proof of reasonableness of intercompany charges as a condition precedent to establishing a claim of confiscation.

The company's chief contention in this case was that it had not been given that fair opportunity for submitting its controversy with the State Commission over the rates fixed to a judicial tribunal for determination upon its own independent judgment both as to the law and the facts, which was declared to be a requisite of due process in *Ohio Valley Co. v. Ben Avon Borough,* 253 U.S. 287 (1920). Since the company itself admitted that the trial ". . . was essentially *de novo,* new and full testimony being introduced . . ." the question of procedural due process came to one of whether trial by jury was appropriate, and if so, whether there was constitutional error in the way in which the issues were framed. To the company's attack on the use of a jury in determining the reasonableness of a rate, the Supreme Court, while agreeing that there is a strong policy argument against the use of a jury, pointed out that many questions commonly submitted to juries are quite as complicated; but that nevertheless there is no constitutional prohibition against a state providing for a jury trial.

The chief significance of this case is that States, in their attempts at protecting the public from high utility rates, may increasingly turn to the jury method of independent judicial review of Commission action. If there is any substantial evidence to support a jury verdict of 'reasonable rate', it is less likely to be overturned on appeal than a detailed opinion explaining the way in which a conclusion was reached.

STATE POWER AND INTERSTATE PIPE LINE COMPANIES

Arkansas Louisiana Gas Co. v. Department of Public Utilities (82 Adv. Op. 770; 58 Sup. Ct. Rep. 770) was an appeal from the Arkansas Supreme Court decision which held valid an order of the State Public Utilities Department requiring a public utility incorporated in Delaware, which produces gas in Texas and Louisiana and transports it for delivery through tapped pipe line to customers in Arkansas under contract made in Louisiana, to report to the Commission schedules of its rates and charges. The order was challenged by the company as inapplicable to this business under the commerce clause of the Federal Constitution.

The Court's opinion by Mr. Justice McReynolds holds that the mere fact that certain of the utilities business in Arkansas is a part of interstate commerce does not justify refusal to supply the required information, since a large part of its operation is local and complete information may be essential, and since the mere requirement to furnish comprehensive information does not materially burden or interfere with interstate commerce. The opinion points out that, if the Department takes future action which does unreasonably burden the interstate commerce, that may be contested at that time.

COMMERCE CLAUSE IN TAXATION

Taxation continues to lead the field in litigation before the Supreme Court, nearly one-third of the cases upon which the high court rendered written opinions in the 1937 term having involved controversies over taxes. In several opinions, the Court indicated a marked tendency to apply a new test in determining whether or not a state tax violates the Commerce clause. Under this test certain elements heretofore regarded as the very essence of interstate commerce will not be entitled to exemption from a non-discriminatory state tax even though their taxation concededly increases the cost of carrying on interstate commerce so long as sustaining the tax will not lead to multiple taxation.

Western Livestock v. Bureau of Revenue (303 U.S. 250) is probably the most important case of the last term pointing in this new direction. The New Mexico tax before the Court in that case was imposed upon the business of publishing newspapers and magazines and was measured by gross receipts from advertising. The advertising contracts were made with advertisers in other States and necessitated the interstate transmission of advertising materials from advertiser to publisher and the gross receipts from advertising were greater by reason of the publisher's maintenance of an interstate circulation of the magazine containing the advertisements. The Court assumed in favor of the taxpayer that the advertising contracts required the publisher to maintain this interstate circulation.

The Louisiana tax before the Court in *Coverdale v. Arkansas Louisiana Pipe Line Company* (303 U.S. 604) was not imposed upon gross receipts, but upon the privilege of producing power measured by the horsepower of the "prime mover" or power-producing machine. In order to get natural gas to the pressure necessary to transport it through interstate pipe lines a company used compressors operated by engines. The Court upheld a tax on the company for the privilege of producing power by these engines. It stated that the production of power was a local activity distinct from interstate commerce but admittedly closely connected with commerce. Moreover, the tax could not be imposed by more than one state. Said Mr. Justice Reed: "It is true that each state through which a pipe line passes could lay a tax on the use of engines for the production of power, but that would not be multiple taxation 'merely because interstate commerce is being done' as discussed in *Western Live Stock v. Bureau of Revenue*. It would not be a tax on the same activity either in form or in substance. Like a property tax on the pipes or equipment in different States, it would be a different tax on different and wholly separate subject matter with no cumulative effect caused by the interstate character of the business."

In both preceding cases the multiple taxation test was used to sustain taxes in some way related to interstate commerce. In *J. D. Adams Manufacturing Co. v. Storen* (304 U.S. 307) that test was invoked to invalidate the Indiana gross income tax as applied to gross receipts from interstate sales. The company claimed the application of the Indiana gross income tax to the receipts from these sales was unconstitutional. In sustaining this contention, the Supreme Court held: "The vice of the statute as applied to receipts from interstate sales is that the tax includes in its measure, without apportionment, receipts derived from activities in interstate commerce, and that the exaction is of such a character that if lawful it may in substance be laid in the fullest extent by States in which the goods are sold as well as those in which they are manufactured. Interstate commerce would thus be subjected to the risk of a double tax burden to which intrastate commerce is not exposed, and which the commerce clause forbids."

In the Western Live Stock case, after pointing out that the tax was on a local activity, and the burden on interstate commerce was "remote and attenuated," the Court advanced as an added reason for sustaining the tax that it could not result in multiple taxation, which suggestion was fortified by the decision in the Storen case.

Puget Sound Stevedoring Co. v. Tax Commission involved the validity of a Washington occupation tax, measured by gross receipts, as applied to a domestic corporation engaged in a general stevedoring business but serving only vessels engaged exclusively in interstate and foreign commerce. The great mass of the taxpayer's business consisted of loading and unloading vessels by longshoremen working under the taxpayer's direction and control. In a few instances the taxpayer simply supplied longshoremen to shipowners without directing or controlling their work. Although the business here taxed was a "general stevedoring business," the Court treated it as a business of two kinds. The business of loading and unloading interstate and foreign vessels was held to be interstate and foreign commerce which the state could not "tax the privilege of doing by exacting in return therefor a percentage of the gross receipts." The business of supplying longshoremen to shipowners without directing or controlling their work was held to be a local business subject to a tax measured by gross receipts.

OBLIGATION OF CONTRACT IN TAXATION

In *New York Rapid Transit Corporation v. The City of New York.* (303 U.S. 573) a tax on utilities of 3% of their gross receipts designated for relief purposes was protested by the plaintiff utility which operated rapid transit railroads in the City of New York under contract with the city. The contract provided for a five-cent fare which could be increased only by a mapjority vote of the people, and for a pooling of the gross receipts from operation and a division between the utility and city after the deduction of specific items. The plaintiff challenged the validity of the tax on the grounds that it impaired the obligation of its contract with the city and violated its rights under the Fourteenth Amendment.

As the contract contained no express exemption from taxes of any kind, the Court held that the tax did not impair the contract, citing the principle that any surrender of the taxing power must be made in clear and unmistakable language, and rejecting the suggestion that the imposition of the tax violated the provision of the contract as to the allocation of revenue.

In discussing the relevance of the Fourteenth Amendment, the Court, in line with its decisions at the previous term, held that there need be no relationship between the taxpayer and the purpose for which the money was spent. Speaking for a unanimous bench, Mr. Justice Reed refused to find any impairment of obligation of contract, since there was no explicit provision in the contract exempting the corporation from the tax. Nor would the court imply such exemption from the provision for sharing the gross receipts, on the theory that the tax gave the city more than its contractual sale of these receipts, and therefore violated the provision for sharing. "In effect," said Mr. Justice Reed, "the corporation is urging that a constructive condition should be incorporated in the contract by speculation as to what the parties must necessarily have intended despite the long-standing rule that exemptions must be clear and unmistakable".

JURISDICTION TO TAX

The case of *Connecticut General Life Ins. Co. v. Johnson* illustrates that the measure of an excise tax, as distinguished from an admission fee, must bear some integral relation to the activities carried on by a foreign corporation within the taxing State. California imposed a tax upon the gross premiums received by insurance companies on contracts entered into outside the State with other insurance companies authorized to do business in California, reinsuring the latter companies against loss on policies of life insurance executed by them in California. The State contended that the reinsurance transactions were so related to business carried on by the company in California as to be a part of it, and that in any event no injustice was done as the State could have exacted a tax from the original insurers instead of allowing them to deduct from the measure of their tax liability the amount of reinsurance premiums paid by them to companies authorized to do business in the State. The Court denied the validity of these contentions, pointing out that "the reinsurance involved no transactions or relationship between the company and those originally insured, and called for no act in California." The decisive factor was said to be the State's power to control the objects of the tax. Had the contracts of reinsurance involved any action in California, such as the settlement and adjustment of claims, the inclusion of the reinsurance premiums in the measure of the tax might have been valid. (303 U.S. 77).

TAXABLE INCOME

The emasculation of the undistributed profits tax imposed by the Revenue Act of 1936 in the Revenue Act of 1938 gives renewed significance to the tax on corporations formed or availed of for the purpose of preventing the imposition of the surtax upon its shareholders. The doubts as to the constitutionality of the Revenue Act of 1938 that have existed since its inception were finally removed by the decision in *Helvering v. National Grocery Company,* 304 U.S. 282 (1938). The Court held that the tax in no way limits the powers of the corporation conferred by state law to declare or withhold dividends but is merely imposed upon corporations using their powers to prevent imposition of surtaxes upon their shareholders; that the tax was not laid upon a state of mind but upon net income, the existence of the defined purpose being a condition precedent to liability; that the prescribed standard was not too vague; that the retroactive assessment involved was not objectionable and that an invalid delegation of power was not given the commission. In holding that the penal nature of the tax did not render it invalid on the grounds that the taxpayer, the sole owner of the business, could not by conducting it as a corporation prevent Congress from laying on him individually the tax on the year's profits, and by referring to the various provisions in the Revenue Acts from 1913 through 1937, taxing shareholders with respect to corporate income, the Court clearly indicates that it no longer considers the corporate entity a bar to the taxation of corporate income to the shareholders.

BANKRUPTCY LEGISLATION APPLICABLE TO MUNICIPALITIES

Because they were organized in a period of inflation, many local improvement districts and other local taxing districts throughout the country found themselves unable to meet their bonded indebtedness during the period of the depression. As taxes or assessments were levied on the land of the districts, defaults increased with a consequent pyramiding of assessments. It was to remedy this situation that Congress in 1934 enacted Sections 78 to 80 of the Federal Bankruptcy Act, allowing local governmental units in States to go into voluntary bankruptcy and effect a readjustment of their debts. Any such plan of readjustment, to become effective, was required to be accepted by a specified proportion of the creditors affected, by the Federal district court having jurisdiction, and by the proper governmental agency of the State, if required by state law.

In the case of *Ashton v. Cameron County Water Improvement District No. One* (298 U.S. 513, 532) the Supreme Court of the United States, by a five-to-four majority, held this legislation unconstitutional. Mr. Justice McReynolds, writing the majority opinion, based the decision on the ground that the statute was an invalid infringement of state sovereignty, probably meaning an infringement of the degree of autonomy secured to each State by the Constitution. Mr. Justice Cardozo, in a vigorous dissent, contended that the statute should be upheld in the light of the expanding concept of the bankruptcy power which has characterized the history of bankruptcy legislation and its judicial interpretation.

In 1937 Congress passed a new amendment to the Bankruptcy Act, adding Sections 81 to 84. This new law, which is almost identical with that declared unconstitutional in the Ashton case, has recently been upheld by the Supreme Court of the United States in the case of *United States v. Bekins.* Mr. Chief Justice Hughes wrote the majority opinion, with Justices McReynolds and Butler

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dissenting and Mr. Justice Cardozo not participating. Justices Van Devanter and Sutherland of the majority in the Ashton case had meanwhile resigned. Their successors took the opposite side and Mr. Justice Roberts changed sides. Thus by a six-to-two vote the former five-to-four decision is in principle overruled. Although the Ashton case was not expressly overruled, it necessarily results that it was overruled in principle, since the Court makes no attempt to distinguish the two statutes. (304 U.S. 27).

The facts of the two cases are so similar as to provide no ground for distinction. Both cases involved irrigation districts organized under state law, and in each case the State had by statute given its consent to proceedings under the Federal law. Both are limited in time of operation, and both declare, in almost identical words, that nothing contained in the statute is to be construed to limit or impair the power of any State to control its political or governmental powers.

The differences between the statutes are for the most part matters of unimportant detail. The old act labels its purpose as the "readjustment" of municipal debts, while the new one speaks of the "composition" of such debts. The old act required approval of a plan in a petition by 30% or 51% of the creditors affected and final approval by 51% or 75%, according to the type of corporation affected. Under the new act, the petition must be signed by 51% of the creditors, and final approval must be by 66 2/3% in all cases. In naming the political subdivisions of the State to which it applies, the new act omits the generic phrase "any municipality or other political subdivision of any State" which is included in the old act. With the exception of counties, however, the new statute applies in express terms to every kind of corporation within the purview of the original statute.

The only major difference between the two statutes appears to be one which would militate against the constitutionality of the new act as compared with the old one. Whereas the old act provided that the States should have power to require the approval by a state governmental agency of the filing of any petition under the Federal law, the new act completely omits any such provision. The Court in the Bekins case particularly recognizes this omission, but says that it is immaterial if the consent of the State is unnecessary to make the Federal plan effective, and equally immaterial if that consent has been given, as it had been in the present case.

The Court's discussion of the question of impairment of state sovereignty under the new act turns mainly on the argument that the State has power to consent to such legislation by the Federal Government, just as the State may presumably consent to taxation by the Federal Government of state agencies. However, as already pointed out, the statute does not require state consent, and the Court does not indicate whether it would be constitutional in a situation where the State had not consented.

The existence of a serious condition seems to be the underlying reason for upholding this legislation and the Court feels that there should be power somewhere to remedy it. "We see no ground for the conclusion that the Federal Constitution, in the interest of state sovereignty, has reduced both sovereigns to helplessness in such a case." The Court assumes, as did both the majority and minority in the Ashton case, that state legislation allowing municipal corporations to scale down their indebtedness would be unconstitutional as an impairment of the obligation of contracts.

EXTENDING PERIOD OF REDEMPTION AFTER FORECLOSURE

Under Section 75 of the Bankruptcy Act, as amended, the date of the debtor's filing of a petition for adjudication of bankruptcy is controlling as to the property subjected to the Court's jurisdiction for administration. The provision for extension of the debtor's right of redemption, after foreclosure of a mortgage, is a valid exercise of the bankruptcy power and is not in conflict with either the Fifth or Tenth Amendments to the Constitution. (*Wright v. Union Central Life Insurance Co.*, 58 Sup. Ct. 1025).

The respondent contested the constitutional validity of Section 75(n), which was designed to extend the period of redemption for the period necessary to carry out the provisions of Section 75 as a violation of rights reserved to the State under the Tenth Amendment, and also in violation of the due process clause of the Fifth Amendment. The Court rejected both contentions after discussing the power of Congress under the bankruptcy clause as well as the general grant of power "to make all laws which shall be necessary and proper" for carrying out the enumerated powers. The Court considered the scope of the subject of bankruptcies, which embraces broadly the relations between an insolvent debtor and his creditors and the rehabilitation of the debtor.

"The subject of bankruptcies is incapable of final definition. The concept changes. It has been recognized that it is not limited to the connotation of the phrase in England or the States, at the time of the formulation of the Constitution. An adjudication in bankruptcy is not essential to the jurisdiction. The subject of bankruptcies is nothing less than 'the subject of the relations between an insolvent or non-paying or fraudulent debtor and his creditors, extending to his and their relief.' This definition of Judge Blatchford, afterwards a member of this Court, has been cited with approval here.

"The development of bankruptcy legislation has been towards relieving the honest debtor from oppressive indebtedness and permitting him to start afresh. By the Act of March 3, 1933, the Congress deliberately undertook the rehabilitation of the debtor as well as his discharge from indebtedness. This legislation of rehabilitation has been upheld as within the subject of bankruptcies. But respondent urges that, under the Bankruptcy Clause, Congress is confined to legislation for the adjustment of the debtor-creditor relationship, and insists that the purchaser at an Indiana judicial sale is not a creditor but a grantee with rights acquired by the purchase, separate and distinct from the rights and obligations arising from the creation of the debt. While there may be no relation of debtor and creditor between the bankrupt and the purchaser of his property at judicial sale, we think the purchaser at a judicial sale does enter into the radius of the bankruptcy power over debts. His purchase is in the liquidation of the indebtedness. The debtor has a right of redemption of which the purchaser is advised, and until that right of redemption expires the rights of the purchaser are subject to the power of the Congress over the relationship of debtor and creditor and its power to legislate for the rehabilitation of the debtor. The person whose land has been sold at foreclosure sale and now holds a right of redemption is, for all practical purposes, in the same debt situation as an ordinary mortgagor in default: both are faced with the same ultimate prospect, either of paying a certain sum of money, or of being completely divested of their land. We think the provision for the extension of the period of redemption comes clearly within the power of the Congress under the bankruptcy clause. But respondent presses a further argument that the Fifth and Tenth Amendments are violated."

The exercise of the bankruptcy power in the manner involved was found to be consistent with the due process clause of the Fifth Amendment.

CIVIL LIBERTY

An outstanding case in the cause of freedom of speech was *Lovell v. City of Griffin* where the Supreme Court struck down a municipal ordinance which denied the right to distribute circulars, pamphlets, and other printed material, without prior approval by a municipal official. The requirement of the invalidated ordinance that a license be secured from a city manager before any literature may be sold or distributed was held by the Court to be void on its face, since no standard was set for the exercise of the city manager's discretion and the official was thus granted the uncontrolled power to license, and hence to censor, freedom of thought and the press. There was no restriction on the official in respect to the protection of public morals or maintenance of public order or the prevention of misuse or littering of the streets. Standing as it was, unrestricted and unlimited, such power was held to "strike at the very foundation of the freedom of the press by subjecting it to license and censorship," and in view of the numerous prior holdings of the Court, was in violation of the due process clause of the Fourteenth Amendment. (303 U.S. 444).

Whether an ordinance requiring a license for distribution which is restricted to the purpose of preserving public order and morals, or preventing the littering of the streets, can be upheld, is a question which is still in doubt. The requirement that a license be secured before distribution is without doubt a "prior restraint" of the press, a restraint strongly condemned in *Near v. Minnesota* and in the Lovell case. In *Near v. Minnesota* the essence of the doctrine of freedom of the press was held to lie in the distinction between prior restraint and punishment for the abuse of this freedom after the act has been committed.

EQUAL PROTECTION OF THE LAWS

Where a state has established a law school to which its white citizens are admitted, if otherwise duly qualified, it is a violation of the equal protection clause of the Fourteenth Amendment to deny admission thereto to a negro citizen solely because of his race, where he is otherwise qualified for admission. The denial of equal protection is not relieved by a legislative declaration of policy to provide equal educational facilities in a separate state institution for negroes, until the plan has been carried into effect, nor is it relieved by providing for attendance of the negro citizens of such State in the law schools of adjacent States which are open to negroes. If equivalent educational facilities are actually extended, the policy of the State to afford them to whites and negroes in separate schools is not condemned. (*Missouri ex rel. Gaines v. University of Missouri,* 59 Sup. Ct. Rep. 232).

The Court said: "The basic consideration is not as to what sort of opportunities other States provide, or whether they are as good as those in Missouri, but as to what opportunities Missouri itself furnishes to white students and denies to negroes solely upon the ground of color. The admissibility of laws separating the races in the enjoyment of privileges afforded by the State rests wholly upon the equality of the privileges which the laws give to the separated groups within the State. The question here is not of the State to supply legal training, or of the quality of the training which it does supply, but of its duty when it provides such training to furnish it to the residents of the State upon the basis of an equality of right. By the operation of laws of Missouri a privilege has been created for white law students which is denied to negroes by reason of their race. The white resident is afforded legal education within the State; the negro resident having the same qualifications is refused it there and must go outside the State to obtain it. That is a denial of the equality of legal right to the enjoyment of the privileges which the State has set up, and the provision for the payment of tuition fees in another State does not remove the discrimination.

"The equal protection of the laws is 'a pledge of the protection of equal laws' . . . Manifestly, the obligation of the State to give the protection of equal laws can be performed only where its laws operate, that is, within its own jurisdiction. It is there that the equality of legal right must be maintained. That obligation is imposed by the Constitution upon the States severally as governmental entities—each responsible for its own laws establishing the rights and duties of persons within its borders. It is an obligation the burden of which can not be cast by one State upon another, and no State can be excused from performance by what another State may do or fail to do. That separate responsibility of each State within its own sphere is of the essence of statehood maintained under our dual system. It seems to be implicit in respondents' argument that if other States did not provide courses for legal education, it would nevertheless be the constitutional duty of Missouri when it supplied such courses for white students to make equivalent provision for negroes. But that plain duty would exist because it rested upon the State independently of the action of other States. We find it impossible to conclude that what otherwise would be an unconstitutional discrimination with respect to the legal right to the enjoyment of opportunities within the State, can be justified by requiring resort to opportunities elsewhere. That resort may mitigate the inconvenience of the discrimination but cannot serve to validate it."

In *Johnson v. Zerbst,* (304 U. S. 458) the usefulness of the writ of habeas corpus was greatly extended by the court. In that case two men had been convicted in a Federal court of counterfeiting. They claim that they were denied the right to be represented by counsel, and after conviction, had been held incommunicado beyond the short time allowed for the taking of an appeal. In reversing the order which denied a second application for the writ on the ground that the constitutional guarantee of the right to counsel could otherwise receive no effective protection, Mr. Justice Black, writing for the majority said: "Since the Sixth Amendment constitutionally entitled one charged with crime to the assistance of counsel, compliance with this constitutional mandate is an essential jurisdictional prerequisite to a federal court's authority to deprive an accused of his life or liberty. . . . If this requirement of the Sixth Amendment is not complied with, the Court no longer has jurisdiction to proceed. The judgment of conviction pronounced by a Court without jurisdiction is void, and when imprisoned thereunder, one may obtain release by habeas corpus."

ELECTIONS OF 1938

By Thomas Nathanael Hoover

Professor, Ohio University

GENERAL RESULTS

The voters in 1938 elected 33 Governors of States, 435 members of the House of Representatives in Congress, and 35 Senators to sit in the 76th Congress. The Republicans elected 18 and the Democrats 15 of the Governors. The Democrats elected 24 and the Republicans 11 of the Senators. The House of Representatives is made up of 262 Democrats, 169 Republicans, one Farmer-Labor, two Progressives, and one American Labor. A summary of state issues and the candidates and the votes each candidate received follow.

STATE ISSUES

Alabama.—A proposal to restrict the use of certain taxes was rejected by vote of 59,798 to 54,525.

Arkansas.—Six amendments were approved and three rejected. Two acts were voted on and both rejected.

California.—Twenty-five measures were submitted to the voters of California, seven of which were approved. These related to use of fuel taxes, fisheries, taxation of insurance companies, relief administration, San Francisco Bay Exposition, removal of judges, and the Initiative.

Colorado.—Proposals relating to chain stores, health, and repeal of old age pensions were in all cases rejected.

Florida.—Four amendments were ratified in Florida. These related to homestead exemption, special legislation, school funds, and National Guard.

Georgia.—Twenty-three amendments, all relating to local matters in cities and counties, were ratified.

Idaho.—A measure relating to a fish and game commission was approved.

Illinois.—Article 11 of the Constitution was amended by vote of 922,237 to 352,428. The vote on the William Hale Thompson Policy Proposal, opposing the drafting of American boys to fight on foreign soil, was approved by vote of 1,678,352 to 957,696.

Louisiana.—Amendments were approved relating to exemptions from taxation, highways, and Senatorial districts.

Maine.—A measure relating to the license and sale of liquor was approved as was also an amendment to the constitution requiring a more extended residence as a qualification for voting.

Massachusetts.—By vote of 748,030 to 417,134, the voters approved an amendment providing for biennial sessions of the General Court. Other measures approved related to taxi cab stands, and betting on horse and dog races. The voters approved public policies relating to the use of certain taxes, barring married women from public employment whose husbands are employed, and prohibiting the use of taxes for construction of apartment houses.

Maryland.—Measures relating to lotteries and income taxes were rejected. Provision for an additional judge and 48 hours between application for marriage licenses and the performance of the ceremony were approved.

Michigan.—A proposal to prevent the diversion of highway revenues was approved. Proposals for a 4-year term for county officials, appointment of judges, and a welfare referendum were rejected.

Minnesota.—An amendment relating to the exchange of public lands was approved.

Missouri.—But one of nine amendments submitted was ratified, that enabling the General Assembly to enact old age pension legislation. The proposals rejected related to increased salaries, making state treasurer eligible for a succeeding term, county hospitals, fuel tax, state highways, apportionment, and terms of certain officials.

Montana.—Amendments were approved relating to the term of county offices, investment of public school funds, the retail of liquor, and highway debentures.

New Hampshire.—A proposal to restrict the use of certain taxes was approved.

New York.—Proposals were approved relating to amending the constitution, elimination of railroad crossings, slum clearance, the rights of labor, social welfare, and exclusions from debt limits.

North Carolina.—Measures were approved providing for a 4-year term for sheriff and for a department of justice.

North Dakota.—Measures were approved relating to the license of creameries and old age pension assistants. A measure for repeal of the liquor control act was rejected.

Ohio.—A proposal for the appointment of judges by the governor was rejected by a vote of 1,237,443 to 621,011.

Oregon.—Measures were approved relating to 20 days for the governor to consider legislation, physical and mental examinations for applicants for marriage licenses, seizure of slot machines, prohibiting pin ball, Townsend plan, regulating picketing, and water purification. Measures rejected related to repeal of double liability, pay of legislators, retirement annuity, sale of liquor, and lottery.

South Carolina.—A proposal for a three-mill levy for school purposes was approved, and the proposal relating to the retirement of judges was rejected.

Texas.—A proposal was approved relating to a change in the oath of office to be taken by state officials.

Utah.—A proposal for a permanent school fund was approved. Those relating to rates of taxation and hours of labor on public work were rejected.

ALABAMA

Governor

Frank M. Dixon	Dem.	———

U. S. Senator

Lister Hill	Dem.	113,413
J. M. Pennington	Rep.	17,885

Representatives in Congress

1. Frank W. Boykin	Dem.	9,853
2. George Grant	Dem.	15,569
3. Henry B. Steagall	Dem.	10,089
4. Sam Hobbs	Dem.	11,115
C. W. McKay	Rep.	1,488
5. Joe Starnes	Dem.	16,587
6. Pete Jarman	Dem.	10,246
7. W. B. Bankhead	Dem.	17,903
E. M. Reed	Rep.	7,207
8. John J. Sparkman	Dem.	10,266
9. Luther Patrick	Dem.	12,627
J. G. Bass	Rep.	878

ARIZONA

Governor

R. T. Jones	Dem.	80,350
Jerrie W. Lee	Rep.	32,022

U. S. Senator

Carl Hayden	Dem.	82,714
Bert H. Clingan	Rep.	25,378

Representatives in Congress

John R. Murdock	Dem.	83,556
M. E. Cassidy	Rep.	20,502

ARKANSAS

Governor

Carl E. Bailey	Dem.	124,471
Chas. E. Cole	———	11,653
Walter S. McNutt	———	6,729

U. S. Senator

Hattie W. Caraway	Dem.	124,115
C. D. Atkinson	Rep.	12,208

Representatives in Congress

1. E. C. Gathings	Dem.	23,244
2. Wilbur D. Mills	Dem.	18,511
3. Clyde T. Ellis	Dem.	22,141
4. Ben Cravens	Dem.	22,272
5. David D. Terry	Dem.	23,949
6. W. F. Norrell	Dem.	15,614
7. Wade Hampton Kitchens	Dem.	18,193

CALIFORNIA

Governor

Culbert L. Olson	Dem.	1,391,734
Frank P. Merriam	Rep.	1,171,019
Raymond Haight	Prog.	64,418
Robert Noble	Com.	23,787

U. S. Senator

Sheridan Downey	Dem.; Prog.; Twd.	1,372,314
Phillip Bancroft	Rep.	1,126,240
Lillian S. Clements	Soc.	22,569

Representatives in Congress

1.	Clarence F. Lea	Dem.; Rep.	73,636
	Ernest S. Mitchell	Twd.	43,320
2.	Harry L. Englebright	Rep.; Dem.; Prog.; Twd.	71,496
3.	Frank H. Buch	Dem.; Rep.	119,236
	Nora Conklin	Com.	8,271
4.	Franck R. Havenner	Dem.; Prog.	64,452
	Kennet B. Dawson	Rep.	40,842
5.	Richard J. Welsh	Rep.; Dem.; Prog.	91,868
6.	Albert E. Carter	Rep.; Dem.; Prog.; Twd.	118,632
	Dave L. Saunders	Com.	7,015
7.	John H. Tolan	Dem.	62,599
	Charles Wade Snook	Rep.	50,504
8.	John Z. Anderson	Rep.	84,084
	John J. McGrath	Dem.	68,681
9.	B. W. Gearhart	Rep.; Dem.	91,128
10.	A. J. Eliott	Dem.	84,791
	F. Fred Hoelscher	Rep.	41,194
11.	Carl Hinshaw	Rep.	68,712
	Carl Stuart Hamblen	Dem.	59,993
	Ralph D. Horton	Twd.	12,713
	John R. Grey	Prog.	3,821
	Orla E. Lair	Com.	817
12.	H. Jerry Voorhis	Dem.	75,003
	Eugene W. Nixon	Rep.	40,457
	Russell R. Hand	Twd.	7,903
13.	Charles Cramer	Dem.; Prog.	96,258
	K. L. Stockton	Rep.; Twd.	44,808
	Louis Baron	Com.	5,104
14.	Thomas F. Ford	Dem.	67,588
	William D. Campbell	Rep.	31,375
15.	John M. Costello	Dem.	83,086
	O. D. Thomas	Rep.	51,483
	Emil Freed	Com.	2,951
16.	Leland M. Ford	Rep.; Dem.	97,407
	John F. Dockweiler	(Write in)	32,863
	Ted E. Felt	Twd.	16,045
	J. Barton Hutchins	Prog.	6,643
	La Rue McCormich	Com.	2,070
17.	Lee E. Geyer	Dem.	56,513
	Clifton A. Hix	Rep.	26,891
	Fred C. Wagner	Twd.	8,870
	Robert O. Bates	Prog.	3,774
18.	Thomas M. Eaton	Rep.	52,216
	Byron N. Scott	Dem.	51,874
	Solomon Carr	Prog.	3,384
19.	Harry R. Sheppard	Dem.	75,819
	C. T. Johnson	Rep.; Twd.	66,402
20.	Ed. V. Izac	Dem.	65,243
	John L. Bacon	Rep.	42,710

COLORADO

Governor

Ralph L. Carr	Rep.	266,848
Teller Ammons	Dem.	213,700

U. S. Senator

Alva B. Adams	Dem.	262,786
Archibald A. Lee	Rep.	181,297

Representatives in Congress

1.	Lawrance Lewis	Dem.	83,517
	William Reilly	Rep.	42,758
2.	Fred Cummings	Dem.	65,448
	William S. Hill	Rep.	60,259
3.	John A. Martin	Dem.	72,736
	Harry Leonard	Rep.	54,007
4.	Edward T. Taylor	Dem.	43,596
	John S. Woody	Rep.	24,805

CONNECTICUT

Governor

Raymond D. Baldwin	Rep.	230,237
Wilbur L. Cross	Dem.	227,549

U. S. Senator

John A. Danaher	Rep.	270,413
Augustine Lonergan	Dem.	250,929
Bellani Trombley	Soc.	99,282

Representatives in Congress

At large—			
	B. J. Monkiewicz	Rep.	271,329
	William M. Citron	Dem.	250,013
1.	William J. Miller	Rep.	68,229
	Herman P. Kopplemann	Dem.	64,483
2.	Thomas R. Ball	Rep.	48,180
	William J. Fitzgerald	Dem.	45,056
3.	James A. Shanley	Dem.	55,893
	Ranulf Compton	Rep.	55,501
4.	Albert E. Austin	Rep.	61,161
	Alfred M. Phillips, Jr.	Dem.	44,626
5.	J. Joseph Smith	Dem.	39,824
	Roy E. Rice	Rep.	39,652

DELAWARE

Representatives in Congress

George S. Williams	Rep.	60,661
William F. Allen	Dem.	46,989

FLORIDA

U. S. Senator

Claude Pepper	Dem.	145,757
Thomas E. Swanson	Rep.	33,035

Representatives in Congress

1.	J. Hardin Peterson	Dem.	43,837
2.	R. A. (Lex) Green	Dem.	24,830
3.	Millard Caldwell	Dem.	20,174
4.	Pat Cannon	Dem.	29,621
	J. S. Gallagher	Rep.	6,705
5.	Joe Hendricks	Dem.	27,894

GEORGIA

Governor

E. D. Rivers	Dem.	——

U. S. Senator

Walter F. George	Dem.	66,897
Chas. A. Jiles	Indep.	3,442

Representatives in Congress

1.	Hugh Peterson, Jr.	Dem.	10,920
2.	E. E. Cox	Dem.	5,137
3.	Stephen Pace	Dem.	5,987
4.	E. M. Owen	Dem.	5,413
5.	Robert Ramspeck	Dem.	6,906
6.	Carl Vinson	Dem.	4,363
7.	M. C. Tarver	Dem.	5,622
8.	Ben Gibbs	Dem.	4,929
9.	B. Frank Whelcel	Dem.	8,934
10.	Paul Brown	Dem.	9,044

IDAHO

Governor

C. A. Bottolfsen	Rep.	106,268
C. Ben Ross	Dem.	77,697

U. S. Senator

D. Worth Clark	Dem.	99,801
Donald A. Callahan	Rep.	81,939

Representatives in Congress

1.	Compton I. White	Dem.	48,318
	Rex. T. Henson	Rep.	28,640
2.	Henry Dworshak	Rep.	54,527
	Bert H. Miller	Dem.	47,199

ILLINOIS

U. S. Senator

Scott W. Lucas	Dem.	918,857
Richard J. Lyons	Rep.	715,072

Representatives in Congress

2 at large			
	T. V. Smith	Dem.	909,735
	John C. Martin	Dem.	891,865
	Simon E. Lantz	Rep.	668,584
	Stephen A. Day	Rep.	685,462
1.	Arthur W. Mitchell	Dem.	30,207
	William L. Dollson	Rep.	26,396
2.	Raymond S. McKenough	Dem.	129,620
	Noble W. Lee	Rep.	108,483
3.	Edward A. Kelley	Dem.	127,597
	Goodwin L. Dosland	Rep.	100,357
4.	Harry P. Beam	Dem.	61,504
	Dominik M. Jamic, Jr.	Rep.	18,962
5.	Adolph Sabath	Dem.	32,104
	Max Price	Rep.	10,842
6.	A. F. Maciejewski	Dem.	154,818
	Robert I. Randolph	Rep.	109,031
7.	Leonard W. Schuetz	Dem.	192,750
	James C. Moreland	Rep.	162,069
8.	Leo Kocialkowski	Dem.	31,823
	Rena E. Pikiel	Rep.	10,440
9.	James McAndrews	Dem.	44,064
	Charles S. Dewey	Rep.	39,512
10.	Ralph E. Church	Rep.	141,685
	Joseph F. Edward	Dem.	102,234
11.	Chauncey Reed	Rep.	94,565
	William J. Bossingham	Dem.	48,876
12.	N. M. Mason	Rep.	67,326
	Edward C. Hunter	Dem.	43,631
13.	Leo E. Allen	Rep.	45,177
	Theo. E. Secker	Dem.	23,708
14.	Anton J. Johnson	Rep.	44,243
	Chester Thompson	Dem.	41,682
15.	R. B. Chiperfield	Rep.	47,703
	Lewis L. Boyer	Dem.	39,779
16.	Everett M. Dirksen	Rep.	61,012
	James C. Dillon	Dem.	35,081
17.	Leslie C. Arends	Rep.	45,235
	Thomas V. Watson	Dem.	29,023
18.	Jesse Sumner	Rep.	56,587
	James A. Meeks	Dem.	45,691
19.	William H. Wheat	Rep.	59,446
	Hugh M. Rigney	Dem.	55,956
20.	James M. Barns	Dem.	37,184
	Stuart E. Pierson	Rep.	29,907
21.	Frank W. Fries	Dem.	52,173
	Frank M. Ramey	Rep.	51,651
22.	Edwin M. Schaefer	Dem.	66,743
	Jesse R. Brown	Rep.	60,518
23.	Laurence F. Arnold	Dem.	49,537
	O. A. James	Rep.	42,572
24.	Claude V. Parsons	Dem.	40,633
	R. R. Randolph	Rep.	38,889
25.	Kent E. Keller	Dem.	59,203
	R. G. Crisenberry	Rep.	53,999

INDIANA

U. S. Senator

Frederick Van Nuys	Dem.	788,386
Raymond E. Willis	Rep.	783,189

Representatives in Congress

1.	William T. Schults	Dem.	56,630
	M. Elliott Belshaw	Rep.	46,370
	Ralph Logsdon	Soc.	73
2.	Homer Stonebraker	Dem.	57,860
	Charles A. Halleck	Rep.	79,304
3.	George N. Beamer	Dem.	59,359
	Robert A. Grant	Rep.	61,836

4.	James I. Farley	Dem.	52,293
	George W. Gillie	Rep.	72,567
5.	Glenn Griswold	Dem.	60,643
	Forest A. Harness	Rep.	73,102
6.	Mrs. Virginia Jenckes	Dem.	70,128
	Noble J. Johnson	Rep.	71,883
7.	Arthur H. Greenwood	Dem.	74,725
	Gerald W. Landis	Rep.	78,146
8.	John W. Boehne, Jr.	Dem.	76,780
	Charles F. Werner	Rep.	59,254
9.	Eugene B. Crowe	Dem.	70,237
	Clifford H. Long	Rep.	64,541
10.	Finly H. Gray	Dem.	64,176
	Raymond S. Springer	Rep.	73,782
11.	William H. Larrabee	Dem.	65,646
	William O. Nelson	Rep.	61,627
12.	Louis Ludlow	Dem.	65,368
	Charles W. Jewett	Rep.	56,319

IOWA

Governor

George Wilson	Rep.	———

U. S. Senator

Guy M. Gillette	Dem.	413,788
Lester J. Dickinson	Rep.	410,983
George F. Buresh	Farmer-Labor	404,723

Representatives in Congress

1.	Thomas E. Martin	Rep.	46,636
	James P. Jaffney	Dem.	33,765
2.	William S. Jacobson	Dem.	48,155
	Alfred C. Mueller	Rep.	47,535
3.	John W. Gwynne	Rep.	45,541
	W. F. Hayes	Dem.	30,158
4.	H. O. Talle	Rep.	48,640
	Fred Biermann	Dem.	44,601
5.	Karl M. Le Compte	Rep.	50,860
	Ruth F. Hollingshead	Dem.	43,452
6.	Cassius C. Dowell	Rep.	53,505
	Hubert Utterback	Dem.	37,056
7.	Ben F. Jemsem	Rep.	54,922
	Roger F. Warin	Dem.	37,992
8.	Fred C. Gilchrist	Rep.	51,934
	H. Lloyd Eveland	Dem.	30,632
9.	Vincent F. Harrington	Dem.	46,705
	Albert F. Swanson	Rep.	46,366

KANSAS

Governor

Payne H. Ratner	Rep.	393,989
Walter A. Huxman	Dem.	341,271

U. S. Senator

Clyde M. Reed	Rep.	419,532
George McGill	Dem.	326,774

Representatives in Congress

1.	W. P. Lambertson	Rep.	65,945
	H. N. Hensley	Dem.	43,374
2.	U. S. Guyer	Rep.	70,608
	W. F. Jackson	Dem.	54,582
3.	Thomas D. Winter	Rep.	56,361
	Edward W. Patterson	Dem.	49,117
4.	Ed. H. Rees	Rep.	55,419
	J. Donald Coffin	Dem.	32,443
5.	John M. Houston	Dem.	43,990
	Stanley Taylor	Rep.	43,480
6.	Frank Carlson	Rep.	69,989
	Roy L. Hamilton	Dem.	40,466
7.	Clifford R. Hope	Rep.	72,893
	Claude E. Main	Dem.	38,357

KENTUCKY

U. S. Senator

Alben W. Barkley	Dem.	346,735
John P. Haswell	Rep.	212,266

Representatives in Congress

1. Noble J. Gregory	Dem.	35,332
Alvin H. Schutz	Rep.	11,153
2. B. M. Vincent	Dem.	36,170
Richard H. Slack	Rep.	20,566
3. Emmet O'Neal	Dem.	57,227
Frank A. Ropke	Rep.	36,361
4. Edward W. Creal	Dem.	32,179
Harry H. Wilson	Rep.	22,139
5. Brent Spence	Dem.	28,383
Joseph A. Kreke	Rep.	13,095
6. Virgil Chapman	Dem.	38,139
Chester D. Silvers	Rep.	20,471
7. A. J. May	Dem.	27,655
Hillard H. Smith	Rep.	24,337
8. Joe B. Bates	Dem.	39,006
H. Clell Hayes	Rep.	27,308
9. Joe M. Robsion	Rep.	42,901
Bert Rowland	Dem.	21,327

LOUISIANA

U. S. Senator

John H. Overton	Dem.	151,582

Representatives in Congress

1. J. O. Fernandez	Dem.	50,453
2. Paul H. Maloney	Dem.	47,746
3. Robert L. Mouton	Dem.	5,236
4. Overton Brooks	Dem.	10,661
5. Newt D. Mills	Dem.	11,644
6. John K. Griffith	Dem.	12,225
7. Rene L. DeRouen	Dem.	5,313
8. A. Leonard Allen	Dem.	9,088

MAINE

Governor

Louis O. Barrows	Rep.	157,206
Louis J. Braun	Dem.	139,745

Representatives in Congress

1. James C. Oliver	Rep.	57,642
Harold B. Emery	Dem.	40,103
2. Clyde H. Smith	Rep.	55,718
F. Harold Dubord	Dem.	46,900
3. Ralph O. Brewster	Rep.	51,485
Melvin P. Roberts	Dem.	29,771

MARYLAND

Governor

Herbert R. O'Connor	Dem.	308,372
Harry W. Nice	Rep.	242,095

U. S. Senator

Millard E. Tydings	Dem.	357,245
Oscar Leser	Rep.	153,253

Representatives in Congress

1. T. Allan Goldsborough	Dem.	38,926
Charles H. Gibson	Rep.	23,096
2. William P. Cole, Jr.	Dem.	91,231
Erving H. Mezger	Rep.	44,699
3. Thomas D'Alesandro, Jr.	Dem.	29,891
John A. Janetzke	Rep.	22,909
4. Ambrose J. Kennedy	Dem.	37,416
Daniel Ellison	Rep.	37,126
5. Stephen W. Gambrill	Dem.	46,678
A. Kingsley Love	Rep.	19,604
6. William D. Byron	Dem.	46,200
A. Charles Stewart	Rep.	44,734

MASSACHUSETTS

Governor

Leverett Saltonstall	Rep.	941,645
James M. Curley	Dem.	793,884

Representatives in Congress

1.	Allen T. Treadway	Rep.	64,886
	Owen Johnson	Dem.	45,397
2.	Charles R. Clason	Rep.	68,106
	James F. Egan	Dem.	41,935
3.	Joseph E. Casey	Dem.	58,600
	J. Walton Tuttle	Rep.	54,557
4.	G. Holmes Pehr	Rep.	62,874
	Edward A. Ryan	Dem.	53,266
5.	Edith Nourse Rogers	Rep.	104,912
	Francis J. Roane	Dem.	35,323
6.	George J. Bates	Rep.	82,434
	James D. Burns	Dem.	27,967
7.	Lawrence J. Connery	Dem.	83,618
	George W. Eastman	Rep.	47,533
8.	Arthur D. Healey	Dem.	62,152
	Rufus H. Bond	Rep.	50,711
9.	Robert Luce	Rep.	70,059
	Thomas H. Eliot	Dem.	68,258
10.	George Holden Tinkham	Rep.	78,052
	Martin J. Kelley	Dem.	43,093
11.	Thomas A. Flaherty	Dem.	56,939
12.	John W. McCormack	Dem.	86,618
	Henry J. Allen	Rep.	25,678
13.	Richard B. Wrigglesworth	Rep.	86,389
	Andrew T. Clancy	Dem.	39,939
14.	Joseph William Martin, Jr.	Rep.	63,608
	Lawrence J. Bresnahan	Dem.	43,876
15.	Charles L. Gifford	Rep.	66,054
	John D. W. Bodfish	Dem.	45,867

MICHIGAN

Governor

Frank D. Fitzgerald	Rep.	847,245
Frank Murphy	Dem.	753,752

Representatives in Congress

1.	Rudolph G. Tenerowicz	Dem.	71,533
	Charles A. Roxborough	Rep.	16,752
2.	Earl C. Michiner	Rep.	58,921
	Walter C. Averill	Dem.	32,468
3.	Paul W. Shafer	Rep.	58,128
	Gordon L. Stewart	Dem.	29,832
4.	Clare E. Hoffman	Rep.	49,279
	Felix A. Racette	Dem.	33,912
5.	Carl E. Mapes	Rep.	50,473
	Tunis Johnson	Dem.	34,991
6.	William W. Blackney	Rep.	66,612
	Andrew J. Transue	Dem.	54,491
7.	Jesse P. Walcott	Rep.	62,910
	Charles F. Mann	Dem.	28,259
8.	Fred L. Crawford	Rep.	52,250
	Louis C. Schewinger	Dem.	36,758
9.	Albert J. Engel	Rep.	40,849
	Noel P. Fox	Dem.	29,397
10.	Roy O. Woodruff	Rep.	44,818
	Herald C. Bellows	Dem.	22,615
11.	Fred Bradley	Rep.	40,904
	John Luecke	Dem.	38,707
12.	Frank E. Hook	Dem.	43,453
	John B. Bennett	Rep.	40,587
13.	Clarence J. McLeod	Rep.	50,123
	George D. O'Brien	Dem.	48,443
14.	Louis C. Rabaut	Dem.	62,872
	O. Z. Ide	Rep.	45,967
15.	John D. Dingell	Dem.	57,401
	Archie C. Fraser	Rep.	48,429
16.	John Lesinski	Dem.	49,101
	John L. Carey	Rep.	39,623
17.	George A. Dondero	Rep.	63,769
	Samuel G. Backus	Dem.	39,784

MINNESOTA

Governor

Harold E. Stassen	Rep.	678,839
Elmer A. Benson	Farmer-Labor	387,263
Thomas Gallagher	Dem.	65,875

Representatives in Congress

1.	August H. Andresen	Rep.	74,493
	Ray G. Noonan	Dem.	40,340
2.	Elmer J. Ryan	Dem.	53,258
	Joseph P. O'Hara	Rep.	43,919
	C. F. Gaarenstroom	Farmer-Labor	25,060
3.	John G. Alexander	Rep.	53,442
	Henry G. Teigan	Farmer-Labor	50,505
	Martin A. Hogan	Dem.	14,073
4.	Melvin J. Mass	Rep.	60,252
	Howard Y. Williams	Larmer-Labor	40,558
	A. B. C. Doherty	Dem.	12,619
5.	Oscar Youngdahl	Rep.	67,722
	Dewey W. Johnson	Farmer-Labor	45,568
	John L. Gleason	Dem.	10,598
6.	Harold Knutson	Rep.	79,900
	Harry W. Christenson	Farmer-Labor	36,023
	Harold F. Deering	Dem.	10,448
7.	H. Carl Andersen	Rep.	49,394
	Paul John Kvale	Farmer-Labor	42,572
	J. L. O'Conner	Dem.	19,330
	Albert S. Falk	Pensions for everybody	4,742
8.	William A. Pittanger	Rep.	67,960
	John T. Bernard	Farmer Labor	54,381
	Merle J. McKeon	Dem.	8,945
9.	Richard Thompson Butler	Farmer-Labor	44,017
	Ole O. Sageng	Rep.	40,383
	Martin O. Brandon	Dem.	20,425

MISSISSIPPI

Representatives in Congress

1.	John E. Rankin	Dem.	4,384
2.	Wall Doxey	Dem.	4,134
3.	W. M. Whittington	Dem.	2,172
4.	A. L. Ford	Dem.	3,502
5.	Ross A. Collins	Dem.	11,540
6.	W. M. Colmer	Dem.	4,873
7.	Dan R. McGehee	Dem.	4,834

MISSOURI

U. S. Senator

Bennett Champ Clark	Dem.	757,587
Henry S. Caulfield	Rep.	488,687
J. G. Hodges	Soc.	1,712

Representatives in Congress

1.	Milton A. Romjue	Dem.	43,607
	J. G. Morgan	Rep.	36,064
2.	William L. Nelson	Dem.	51,451
	Mrs. George B. Simmons	Rep.	37,294
3.	Richard M. Duncan	Dem.	50,501
	Fred Maughmer	Rep.	40,801
4.	C. Jasper Bell	Dem.	71,940
	George E. Kimball	Rep.	17,560
5.	Joseph B. Shannon	Dem.	75,810
	Leslie J. Lyons	Rep.	17,809
6.	Reuben T. Wood	Dem.	52,774
	Phil A. Bennet	Rep.	52,159
7.	Dewey Short	Rep.	63,758
	Frank H. Lee	Dem.	49,396
8.	Clyde Williams	Dem.	56,489
	Homer S. Cotton	Rep.	45,673
9.	Clarence Cannon	Dem.	40,686
	F. B. Mayer	Rep.	26,510
10.	Orville Zimmerman	Dem.	44,182
	Ralph Hutchison	Rep.	30,804
11.	Thomas C. Hennings, Jr.	Dem.	63,332
	William E. Buder	Rep.	38,866

12.	C. Arthur Anderson	Dem.	78,481
	Russell J. Horsefield	Rep.	71,831
13.	John J. Cochran	Dem.	59,202
	William Gray	Rep.	26,476

MONTANA

Representatives in Congress

1.	Dr. J. Thorkelson	Rep.	49,253
	Jerry J. O'Connell	Dem.	41,319
2.	James F. O'Connor	Dem.	63,506
	W. C. Husband	Rep.	54,632

NEBRASKA

Governor

R. L. Cochran	Dem.	218,787
Charles J. Warner	Rep.	201,898
Charles W. Bryan	By petition	76,258

Representatives in Congress

1.	George Heinke	Rep.	45,527
	Henry C. Luckey	Dem.	45,178
2.	Charles F. McLaughlin	Dem.	46,927
	M. F. Maulvaney	Rep.	32,685
3.	Karl Stefan	Rep.	78,765
	Edgar Howard	Dem.	25,862
4.	Carl T. Curtis	Rep.	59,794
	Carl G. Binderup	Dem.	42,957
5.	Harry B. Coffee	Dem.	57,192
	William E. Shuman	Rep.	31,225

NEVADA

Governor

E. P. Carville	Dem.	28,528
John A. Fulton	Rep.	17,586

U. S. Senator

Patrick A. McCarran	Dem.	27,406
Tasker L. Oddie	Rep.	19,078

Representatives in Congress

James G. Scrughan	Dem.	30,156
H. E. Stuart	Rep.	15,285

NEW HAMPSHIRE

Governor

Francis P. Murphy	Rep.	107,841
John L. Sullivan	Dem.	80,847

U. S. Senator

Charles W. Tobey	Rep.	100,633
Fred H. Brown	Dem.	84,920

Representatives in Congress

1.	Arthur B. Jenks	Rep.	52,174
	Alphonse Roy	Dem.	44,681
2.	Foster Stearns	Rep.	49,696
	Alvin A. Lucier	Dem.	34,452

NEW JERSEY

U. S. Senator

J. Warren Barbour	Rep.	816,667
William H. J. Ely	Dem.	704,159
William Norman	Com.	3,515
John Palangio	Soc.	3,671
Lewis H. Kelley	Prohib.	8,201
Fred Turner	Twd.	3,521

Representatives in Congress

1.	Charles A. Wolverton	Rep.	96,518
	Thomas M. Maddin	Dem.	58,450
2.	Walter S. Jeffries	Rep.	57,090
	Elmer H. Wene	Dem.	55,344
3.	William H. Sutphin	Dem.	64,621
	James K. Allardice	Rep.	63,345

4. D. Lane Powers	Rep.	62,123
Richard J. Hughes	Dem.	38,921
5. Charles A. Eaton	Rep.	71,661
Frank W. Rice	Dem.	54,690
6. Donald H. McLean	Rep.	63,583
Richard F. Green	Dem.	38,667
7. J. Parnell Thomas	Rep.	64,147
Edward W. Wildrick	Dem.	35,628
8. George N. Seger	Rep.	61,988
Fred Hoelscher	Dem.	42,030
9. Frank C. Osmers, Jr.	Rep.	64,903
Vincent Clausen	Dem.	43,641
10. Fred A. Hartley, Jr.	Rep.	51,025
Lindsay H. Rudd	Dem.	36,273
11. Albert L. Vreeland	Rep.	43,747
Edward L. O'Neill	Dem.	38,885
12. Robert W. Kean	Rep.	48,854
Frank W. Towey, Jr.	Dem.	36,736
13. Mary T. Norton	Dem.	89,287
T. Burton Coyle	Rep.	22,459
14. Edward J. Hart	Dem.	86,128
Henry D. Stuhr	Rep.	23,166

NEW MEXICO

Governor

John E. Miles	Dem.	82,344
Albert K. Mitchell	Rep.	75,017

Representatives in Congress

John J. Dempsey	Dem.	90,608
Pearce Rodey	Rep.	64,281

NEW YORK

Governor

Herbert H. Lehman	Dem.; and Am. Labor	2,391,286
Thomas E. Dewey	Rep.	2,326,892
Norman Thomas	Soc.	24,890

U. S. Senator

Full term		
Robert F. Wagner	Dem.	2,497,029
John Lord O'Brian	Rep.	2,058,615
Herman J. Hahn	Soc.	23,553
Short term		
James M. Mead	Dem.	2,438,904
Edward F. Corsi	Rep.	2,083,666
Harry W. Laidler	Soc.	27,161

Representatives in Congress

2 at large		
Mathew J. Merritt	Dem.; Am. Labor	2,352,159
Caroline O'Day	Dem.; Am. Labor	2,363,463
Helen Z. M. Rodgers	Rep.	2,011,567
Richard B. Scandrett, Jr.	Rep.	1,990,455
Edna Mitchell Blue	Soc.	25,214
Israel Amter	Com.	105,681
1. Leonard W. Hall	Rep.	184,539
John F. Kiernan	Dem.	99,521
2. William B. Berry	Dem.	175,009
George Archinal	Rep.	81,534
3. Joseph L. Pfeifer	Dem.	28,317
Philip Tirone	Rep.	10,174
4. Thomas H. Cullen	Dem.	31,881
Dewin R. Kaprat	Rep.	10,620
5. Marcellus H. Evans	Dem.	45,387
Francis H. Warland	Rep.	23,410
6. Andrew L. Somers	Dem.	78,530
Gustav Drews	Rep.	69,939
7. John J. Delaney	Dem.	29,823
John J. Blust	Rep.	9,930
8. Donald L. O'Toole	Dem.	134,461
Dorothy J. Bellanca	Rep.	111,252
9. Eugene J. Keogh	Dem.	60,164
Nelson S. Kirk, 2d	Rep.	37,740

10.	Emanuel Celler	Dem.	43,881
	Arthur H. J. MacMullen	Rep.	14,852
11.	James A. O'Leary	Dem.	40,407
	Percy C. Ryder	Rep.	23,220
12.	Samuel Dickstein	Dem.	17,297
	Hyman Hecht	Rep.	1,865
13.	Christopher D. Sullivan	Dem.	13,313
	John Rosenberg	Rep.	3,809
14.	William I. Sirovich	Dem.	23,722
	Maurice Wahl	Rep.	10,392
15.	Michael J. Kennedy	Dem.	22,237
	John Kane, Jr.	Rep.	7,477
16.	James H. Fay	Dem.	24,500
	John J. O'Connor	Rep.	22,737
17.	Bruce Barton	Rep.	40,423
	Walter H. Liebman	Dem.	28,581
18.	Martin J. Kennedy	Dem.	25,817
	Raymond S. Fanning	Rep.	12,952
19.	Sol Bloom	Dem.	43,134
	Robert P. Levis	Rep.	22,741
20.	Vito Marcantonio	Rep.	18,960
	James J. Lanzetta	Dem.	12,376
21.	Joseph A. Gavagan	Dem.	84,629
	Lorenzo H. King	Rep.	36,034
22.	Edward W. Curly	Dem.	34,094
	Arthur D. Fisher	Rep.	12,177
23.	Charles A. Bulkley	Dem.	120,474
	Robert H. Brennen	Rep.	49,235
	Isador Nagler	Soc.	67,273
24.	James M. Fitzpatrick	Dem.	116,733
	Louis Goldrich	Rep.	79,537
	Bartholomew Murphy	Am. Labor	40,931
25.	Ralph A. Gamble	Rep.	94,865
	Homer A. Stebbins	Dem.	46,730
26.	Hamilton Fish	Rep.	67,837
	Ben Martin	Dem.	36,937
27.	Louis K. Rockefeller	Rep.	58,565
	George W. Markey	Dem.	37,452
28.	William T. Byrne	Dem.	88,037
	William B. Cornell	Rep.	54,610
29.	E. Harold Cluett	Rep.	74,888
	Harry M. Brooks	Dem.	40,004
30.	Frank Crowther	Rep.	58,691
	C. Dorothea Greene	Dem.	38,535
31.	Wallace E. Pierce	Rep.	49,340
	George C. Owens	Dem.	19,784
32.	Francis D. Culkin	Rep.	60,947
	Virginia A. Spencer	Dem.	19,631
33.	Fred J. Douglas	Rep.	63,857
	Ralph A. Peters	Dem.	37,195
34.	Bert Lord	Rep.	67,330
	John V. Johnson	Dem.	35,456
35.	Clarence Hancock	Rep.	90,078
	Caleb C. Brown, Jr.	Dem.	50,083
36.	John Taber	Rep.	48,344
	George F. Davie	Dem.	20,636
37.	W. Sterling Cole	Rep.	57,648
	David Moses	Dem.	37,216
38.	Joseph J. O'Brien	Rep.	80,963
	George B. Kelley	Dem.	63,325
39.	James W. Wadsworth	Rep.	65,489
	J. Frank Gilligan	Dem.	28,292
40.	Walter G. Andrews	Rep.	92,271
	John L. Bever	Dem.	50,705
41.	J. Francis Harter	Rep.	46,784
	Alfred F. Beiter	Dem.	45,516
42.	Pius L. Schwert	Dem.	39,287
	John C. Butler	Rep.	36,326
43.	Daniel A. Reed	Rep.	53,261
	Samuel A. Carlson	Dem.	28,289

NORTH CAROLINA

U. S. Senator

Robert R. Reynolds	Dem.	316,685
Charles A. Jonas	Rep.	179,650

Representatives in Congress

1.	Lindsay C. Warren	Dem.	12,083
2.	John H. Kerr	Dem.	9,955
3.	Graham A. Barden	Dem.	17,507
4.	Harold D. Cooley	Dem.	26,932
	Willis G. Briggs	Rep.	15,209
5.	A. D. Folger	Dem.	25,472
	John W. Kurfees, Jr.	Rep.	11,087
6.	Carl T. Durham	Dem.	15,730
	Oscar G. Barker	Dem.	5,188
7.	J. Bayard Clark	Dem.	17,175
	Edgar C. Geddie	Rep.	5,501
8.	William O. Burgin	Dem.	34,757
	John R. Jones	Rep.	28,187
9.	Robert L. Doughton	Dem.	43,912
	Monroe Adams	Rep.	28,202
10.	A. L. Bulwinkle	Dem.	48,590
	Frank C. Patton	Rep.	37,360
11.	Zebulon Weaver	Dem.	61,508
	Vonno L. Gudger	Rep.	34,912

NORTH DAKOTA

Governor

John N. Moses	Dem.	138,270
John N. Hagan	Rep.	125,246

U. S. Senator

Gerald P. Nye	Rep.	131,907
William P. Langher	Indep.	112,007
J. J. Nygaard	Dem.	19,244

Representatives in Congress

2 at large

Usher L. Burdick	Rep.	149,047
William Lemke	Rep.	153,106
Alfred S. Dale	Dem.	44,691
Howard I. Henry	Dem.	55,125
J. B. Field	Indep.	8,109

OHIO

Governor

John W. Bricker	Rep.	1,265,652
Chas. Sawyer	Dem.	1,147,396

U. S. Senator

Robert A. Taft	Rep.	1,255,416
Robert J. Bulkley	Dem.	1,085,792

Representatives in Congress

2 at large			
	George H. Bender	Rep.	1,177,982
	L. L. Marshall	Rep.	1,101,193
	John McSweaney	Dem.	1,068,916
	Stephen M. Young	Dem.	1,015,041
1.	Charles H. Elston	Rep.	63,285
	Joseph A. Dixon	Dem.	45,536
2.	William E. Hess	Rep.	61,480
	Herbert S. Bigelow	Dem.	42,773
3.	Harry N. Routzohn	Rep.	73,534
	Byron B. Harlan	Dem.	58,139
4.	Robert F. Jones	Rep.	56,399
	William B. Swonger	Dem.	33,284
	John C. Fisher	Ind.	4,616
5.	Cliff Clevenger	Rep.	37,027
	Frank C. Kniffin	Dem.	28,109
6.	James G. Polk	Dem.	43,646
	Emery F. Smith	Rep.	42,847
7.	Clarence J. Brown	Rep.	68,185
	Arthur W. Aleshire	Dem.	50,163
8.	Frederick C. Smith	Rep.	40,772
	Brooks Fletcher	Dem.	33,972
9.	John F. Hunter	Dem.	56,306
	Homer A. Ramey	Rep.	55,441

10.	Thomas A. Jenkins	Rep.	47,036
	L. C. Stanton	Dem.	24,198
11.	H. K. Claypool	Dem.	33,764
	Tom P. White	Rep.	31,004
12.	John M. Vorys	Rep.	64,409
	Arthur P. Lamneck	Dem.	62,026
13.	Dudley A. White	Rep.	56,204
	William L. Fiesinger	Dem.	24,749
14.	Dow W. Harter	Dem.	87,303
	Edward S. Sheck	Rep.	76,346
15.	Robert T. Secrest	Dem.	42,573
	P. W. Griffiths	Rep.	38,903
16.	Jim Seccombe	Rep.	62,176
	William R. Thom	Dem.	60,382
17.	William A. Ashbrook	Dem.	51,305
	Walter B. Woodward	Rep.	46,300
18.	Earl R. Lewis	Rep.	56,468
	Lawrence E. Imhoff	Dem.	55,809
19.	Michael J. Kirwan	Dem.	76,268
	William P. Barnum	Rep.	69,214
20.	Martin L. Sweeney	Dem.	54,185
	Thomas F. McCafferty	Rep.	22,775
21.	Robert Crosser	Dem.	53,180
	J. E. Chizek	Rep.	24,240
22.	Chester C. Bolton	Rep.	109,494
	Anthony A. Fleger	Dem.	87,635

OKLAHOMA

Governor

Leon C. Phillips	Dem.	355,740
Ross Rizley	Rep.	148,861

U. S. Senator

Elmer Thomas	Dem.	307,936
Harry O. Glasser	Rep.	159,734
P. C. Nelson	Pro.	2,220

Representatives in Congress

At large			
	Will Rogers	Dem.	306,241
	R. R. Wilson	Rep.	137,733
	E. W. Fickinger	Pro.	101,850
1.	Wesley L. Dinsey	Dem.	55,253
	A. M. Armstrong	Rep.	31,755
2.	Jack Nichols	Dem.	38,058
	Bruce L. Keenan	Rep.	15,335
3.	Wilburn Cartwright	Dem.	42,616
	Frank D. Mcscherry	Rep.	7,286
4.	Lyle H. Boren	Dem.	44,233
	Ed. Ball	Rep.	17,506
5.	Mike Monroney	Dem.	47,692
	Harlan Deupree	Rep.	18,271
6.	Jed Johnson	Dem.	33,808
	James F. Rowell	Rep.	14,617
7.	Sam. C. Massingle	Dem.	24,986
	A. L. Smith	Rep.	7,862
8.	Phil Ferguson	Dem.	34,113
	Charles E. Knox	Rep.	33,438

OREGON

Governor

Charles A. Sprague	Rep.	214,062
Henry L. Hess	Dem.	158,744

U. S. Senator

Rufus C. Holman	Rep.	203,120
Willis E. Mahoney	Dem.	167,135

Representatives in Congress

1.	James W. Mott	Rep.	119,965
	Andrew C. Burk	Dem.	49,666
2.	Walter M. Pierce	Dem.	35,200
	U. S. Balentine	Rep.	25,557
3.	Homer D. Angell	Rep.	69,049
	Nan Wood Honeyman	Dem.	66,498

PENNSYLVANIA

Governor

Arthur H. James	Rep.	2,035,340
Charles Alvin Jones	Dem.	1,756,125

U. S. Senator

James J. Davis	Rep.	2,086,931
George H. Earle	Dem.	1,694,293

Representatives in Congress

1.	Leon Sacks	Dem.	54,819
	John Alessandroni	Rep.	47,692
2.	James P. McGranery	Dem.	51,565
	Edward W. Henry	Rep.	46,248
3.	Michael J. Bradley	Dem.	61,686
	William T. Connor	Rep.	56,604
4.	J. Burwood Daly	Dem.	60,514
	Deward F. Roberts	Rep.	51,343
5.	Frederick C. Gartner	Rep.	63,877
	Frank J. G. Dorsey	Dem.	56,492
6.	Francis J. Meyers	Dem.	62,524
	J. Howard Berry, Jr.	Rep.	59,548
7.	George P. Darrow	Rep.	84,077
	Ira Walton Drew	Dem.	57,046
8.	James Wolfenden	Rep.	84,103
	C. Fenno Hoffman	Dem.	40,324
9.	Charles L. Gerlack	Rep.	56,589
	Oliver W. Frey	Dem.	43,055
10.	J. Roland Kinzer	Rep.	78,986
	Thomas J. McClelland	Dem.	43,928
11.	Patrick J. Boland	Dem.	66,626
	William F. Hallstead	Rep.	59,873
12.	J. Harold Flannery	Dem.	98,715
	Michael A. Yeosock	Rep.	94,108
13.	Ivor D. Fenton	Rep.	79,113
	James H. Gildea	Dem.	69,817
14.	Guy L. Moser	Dem.	34,678
	John C. Evans	Rep.	31,068
	Raymond Hosfes	Soc.	8,446
15.	Albert G. Rutherford	Rep.	58,571
	Harry M. Turrell	Dem.	36,095
16.	Robert F. Rich	Rep.	63,240
	Paul A. Rothfuss	Dem.	38,908
17.	J. William Ditter	Rep.	72,225
	Carroll L. Rutter	Dem.	32,921
18.	Richard M. Simpson	Rep.	53,067
	Richard L. Schroyer	Dem.	34,578
19.	John C. Kunkel	Rep.	77,353
	Guy J. Swope	Dem.	63,180
20.	Benjamin Jarrett	Rep.	65,542
	Earl H. Beshlin	Dem.	39,973
21.	Francis E. Walter	Dem.	43,276
	Alonzo L. Reinhard	Rep.	41,665
22.	Chester H. Gross	Rep.	55,565
	Harry L. Haines	Dem.	54,767
23.	James E. VanZandt	Rep.	61,372
	Don Gingery	Dem.	45,544
24.	J. Buell Snyder	Dem.	47,045
	J. C. Glassburn	Rep.	44,604
25.	Charles I. Faddis	Dem.	43,376
	Warren S. Burchinal	Rep.	38,549
26.	Louis E. Graham	Rep.	59,754
	Charles R. Eckert	Dem.	53,095
27.	Harve Tibbott	Rep.	81,000
	Joseph Gray	Dem.	63,492
28.	Robert G. Allen	Dem.	52,034
	Roy C. McKenna	Rep.	44,196
29.	Robert L. Rogers	Rep.	46,856
	Norbert J. Fitzgerald	Dem.	39,762
30.	Robert J. Corbett	Rep.	53,541
	Peter J. DeMuth	Dem.	51,028
31.	John McDow	Rep.	57,392
	James L. Quinn	Dem.	55,211
32.	Herman P. Eberharter	Dem.	48,025
	Jacob E. Kalson	Rep.	27,440

33.	Joseph A. McArdle	Dem.	54,888
	James I. Marsh	Rep.	51,427
34.	Matthew A. Dunn	Dem.	55,502
	Robert B. McKinley	Rep.	55,055

RHODE ISLAND

Governor

William H. Vanderbilt	Rep.	168,624
Robert E. Quinn	Dem.	139,553

Representatives in Congress

1.	Charles F. Risk	Rep.	73,394
	Aime J. Forand	Dem.	72,484
2.	Harry Sandager	Rep.	87,934
	Deward J. Fenelon, Jr.	Dem.	66,408

SOUTH CAROLINA

Governor

B. R. Maybank	Dem.	49,009

U. S. Senator

Ellison D. Smith	Dem.	45,351

Representatives in Congress

1.	Thomas S. McMillan	Dem.	7,649
2.	Hampton P. Fulmer	Dem.	7,236
3.	Butler B. Hare	Dem.	10,028
4.	Joseph R. Bryson	Dem.	8,995
5.	James P. Richards	Dem.	6,191
6.	John L. McMillan	Dem.	5,707

SOUTH DAKOTA

Governor

Harlan J. Bushfield	Rep.	149,380
Oscar Foshein	Dem.	127,509

U. S. Senator

Chandler Gurney	Rep.	147,030
Tom Berry	Dem.	133,137

Representatives in Congress

1.	Karl E. Mundt	Rep.	111,693
	Emil Loriks	Dem.	95,315
2.	Francis E. Case	Rep.	41,378
	Theo. B. Werner	Dem.	25,935

TENNESSEE

Governor

Prentice Cooper	Dem.	210,567
Howard H. Baker	Rep.	83,031

U. S. Senator

Tom Stewart	Dem.	194,028
Harley Fowler	Rep.	72,098
John R. Neal	Indep.	9,106

Representatives in Congress

1.	B. Caroll Reece	Rep.	23,251
	John A. Armstrong	Dem.	10,609
2.	J. Will Taylor	Rep.	32,222
	Judd Acuff	Indep.	16,079
3.	Sam. D. McReynolds	Dem.	21,824
	Joe F. Benson	Rep.	7,708
4.	Albert Gore	Dem.	25,220
5.	Joseph Byrns	Dem.	16,819
6.	Clarence W. Turner	Dem.	14,318
7.	Herron Pearson	Dem.	19,554
8.	Jere Cooper	Dem.	18,173
	David R. Nunn	Rep.	881
9.	Walter Chandler	Dem.	43,976

TEXAS

Governor

	W. Lee O'Daniel	Dem.	——

Representatives in Congress

1.	Wright Patman	Dem.	16,069
	Joe C. Hiley	Rep.	201
2.	Martin Dies	Dem.	12,816
3.	Lindley Beckworth	Dem.	14,979
4.	Sam Rayburn	Dem.	16,523
	Ross E. Johnson	Rep.	349
5.	Hatin W. Sumners	Dem.	10,344
	Eber Page	Rep.	508
6.	Luther A. Johnson	Dem.	15,619
7.	Nat Patton	Dem.	16,467
8.	Albert Thomas	Dem.	36,989
	John A. Booring	Rep.	631
9.	J. J. Mansfield	Dem.	16,680
10.	Linden B. Johnson	Dem.	14,476
11.	William R. Poage	Dem.	14,664
	D. E. Wooley	Rep.	207
12.	Fritz G. Lanham	Dem.	12,972
13.	Ed. Cossett	Dem.	20,620
	Adolph Lohmann	Rep.	298
14.	Richard Cleberg	Dem.	23,438
15.	Milton H. West	Dem.	18,558
16.	R. E. Thomason	Dem.	9,195
17.	Clyde Garrett	Dem.	17,107
18.	Marvin Jones	Dem.	19,048
19.	George Mahon	Dem.	16,372
20.	Paul J. Kilday	Dem.	16,703
21.	Charles L. South	Dem.	21,671
	Max J. Bierschwald	Rep.	1,621

UTAH

U. S. Senator

Elbert D. Thomas	Dem.	102,353
Franklin S. Harris	Rep.	81,071

Representatives in Congress

1.	Abe Murdock	Dem.	52,927
	Leroy B. Young	Rep.	35,790
2.	J. W. Robinson	Dem.	58,456
	Dean F. Drayton	Rep.	35,359

VERMONT

Governor

George D. Aiken	Rep.	75,098
Fred C. Martin	Dem.	37,404

U. S. Senator

Ernest W. Gibson	Rep.	73,990
John McGrath	Dem.	38,673

Representative in Congress

Charles A. Plumley	Rep.	71,901
James P. Leamy	Dem.	40,485

VIRGINIA

Representatives in Congress

1.	S. Otis Bland	Dem.	7,191
2.	Colgate W. Darden, Jr.	Dem.	15,276
	Carl P. Spaeth		2,142
3.	Dave E. Satterfield, Jr.	Dem.	5,560
4.	P. H. Drewery	Dem.	5,805
5.	T. G. Burch	Dem.	5,761
6.	Clifton A. Woodrum	Dem.	11,509
	Fred W. McWane	Rep.	9,083
7.	A. Willis Robertson	Dem.	11,398
	Charles C. Leap	Rep.	6,449
8.	Howard W. Smith	Dem.	13,796
9.	John W. Flannagan, Jr.	Dem.	21,235
	L. E. Gulliford	Rep.	10,612

WASHINGTON

U. S. Senator

Homer T. Bone	Dem.	371,535
Ewing D. Colvin	Rep.	220,204
Eugene Solie	Soc. Labor	1,553

Representatives in Congress

1.	Warren G. Maugson	Dem.	90,768
	Mathew W. Hill	Rep.	56,293
2.	Mon C. Wallgren	Dem.	58,313
	Charles A. Sather	Rep.	36,442
3.	Martin F. Smith	Dem.	52,305
	Walter S. Talbott	Rep.	34,394
4.	Knute Hill	Dem.	38,647
	Frank Miller	Rep.	37,969
5.	Charles Leavy	Dem.	52,782
	Norman A. Ericson	Rep.	38,858
6.	John M. Coffee	Dem.	64,871
	Williard V. Young	Rep.	24,002

WEST VIRGINIA

Representatives in Congress

1.	Robert L. Ramsay	Dem.	47,051
	A. C. Schiffler	Rep.	57,043
2.	Jennings Randolph	Dem.	53,277
	Melvin C. Snyder	Rep.	44,332
3.	Andrew Edmiston	Dem.	53,722
	H. Roy Waugh	Rep.	43,407
4.	George W. Johnson	Dem.	65,960
	Raymond V. Humphreys	Rep.	58,749
5.	John Kee	Dem.	55,501
	Hartley Sanders	Rep.	34,989
6.	Joe L. Smith	Dem.	67,818
	R. E. O'Connor	Rep.	40,965

WISCONSIN

Governor

Julius P. Heil	Rep.	543,675
Phillip F. LaFollette	Prog.	353,381
Harry W. Bolens	Dem.	78,446

U. S. Senator

Alexander Wiley	Rep.	446,770
Herman L. Ekern	Prog.	249,209
F. Ryan Duffy	Dem.	231,976

Representatives in Congress

1.	Stephen Bolles	Rep.	45,247
	Francis H. Wendt	Prog.	29,478
	Calvin Stuart	Dem.	14,573
	Harvey C. Hansen	Ind.	2,568
2.	Charles Hawks, Jr.	Rep.	42,154
	Harry Sauthoff	Prog.	40,656
	Reinholdt A. Gorth	Dem.	11,185
3.	Harry W. Griswold	Rep.	43,495
	Gardner R. Withrow	Prog.	36,509
	Bart E. McGonigle	Dem.	6,887
4.	John C. Schafer	Rep.	34,170
	Thaddius Wasiolowski	Dem.	33,507
	Paul Cauer	Prog.	30,860
5.	Lewis D. Thill	Rep.	47,032
	Thomas O'Kellay	Dem.	31,154
	Alfred Benson	Prog.	20,874
6.	Frank B. Keefe	Rep.	46,082
	Michael K. Reilly	Dem.	25,842
	Adam F. Polti	Prog.	13,258
7.	Reid F. Murray	Rep.	41,662
	Gerald J. Boileau	Prog.	32,442
	James T. Cavanaugh	Dem.	9,727
8.	Joshua L. Johns	Rep.	33,354
	George J. Schneider	Prog.	29,035
	John Cashman	Dem.	28,221

9.	Merlin Hull	Prog.	42,880
	Hugh M. Jones	Rep.	32,275
	William F. Crane	Dem.	5,066
10.	Bernard J. Gehrmann	Prog.	45,874
	James H. Carroll	Rep.	33,854

WYOMING

Governor

Smith	Rep.	57,288
Miller	Dem.	38,501

Representative in Congress

Frank O. Horton	Rep.	49,975
Paul R. Greever	Dem.	44,525

CHRONOLOGY OF PUBLIC AFFAIRS

(From *The New York Times,* January 2, 1939)

GENERAL

JANUARY

1—New York City Council replaces Board of Alderman as Mayor La Guardia begins his second Fusion Administration.

3—Congress begins session.
Supreme Court unanimously upholds PWA in its loans and grants to municipal electric plants competing with private enterprise.

5—Justice George Sutherland retires from Supreme Court at 75.
President's annual budget message forecasts $950,000,000 deficit for 1938–39.

7—Joseph P. Kennedy appointed Ambassador to Britain; Hugh R. Wilson to Germany.

15—Solicitor General Stanley Reed appointed to Supreme Court, succeeding Sutherland.

21—TVA program upheld by three-Judge Federal Court in Chattanooga.

22—Mr. Roosevelt dismisses Chairman Arthur E. Morgan of TVA after hearings arising out of dispute with two fellow directors.

28—Supreme Court validates Public Utility Holding Company Act's requirement that utilities must register with the SEC.

FEBRUARY

14—Congress passes AAA of 1938, containing controls for cotton, wheat, tobacco, corn and rice. Signed Feb. 16.

21—Congress lays aside Anti-Lynching Bill after 30-day Southern filibuster.

MARCH

7—United States signs reciprocal trade treaty with Czecho-Slovakia.

8—Richard Whitney & Co. fails.

APRIL

5—New York Constitutional Convention opens.

8—House, by killing Reorganization Bill, deals severe blow to President's prestige.

29—Mr. Roosevelt asks Congress for investigation into "concentration of economic power." Railroads announce 15 per cent wage cut. Unions object.

30—Jersey City police twice eject Norman Thomas, Socialist, as he attempts to speak in defiance of Mayor Hague.

MAY

11—Congress passes $5,300,000,000 Revenue Bill, greatly modifying undistributed profits and capital-gains taxes.

13—Congress passes Administration's $1,156,000,000 Naval Expansion Bill.

25—Tammany Leader James J. Hines arrested as "fixer" in numbers racket.

JUNE

7—In Iowa Democratic primary Senator Guy M. Gillette wins renomination in first setback for New Deal "purge."

16—Seventy-fifth Congress quits after passing $3,700,000,000 bill for public works and unemployment relief.

20—Federal grand jury in New York indicts eighteen, including high military officers in Germany, for espionage plot.

22—Joe Louis knocks out Max Schmeling and retains heavyweight championship.

JULY

8—Mr. Roosevelt begins political tour, asks Ohio Democrats to renominate Senator Bulkley and Kentuckians to rename Senator Barkley.

14—Howard Hughes finishes round-the-world flight in record time—3 days 19 hours.

18—Douglas Corrigan, in nine-year-old "crate," flies from New York to Dublin, explaining he lost his way.

AUGUST

1—Harlan County, Ky., jury disagrees on Federal charge that coal operators conspired to violate Wagner act.

7—Senator Barkley renominated in Kentucky.

10—Senator Bulkley renominated in Ohio.

Senator Pope of Idaho, New Dealer, defeated by Representative Clark in primary.

Mr. Roosevelt endorses Lawrence Camp against Democratic Senator George of Georgia.

16—President asks defeat of Senator Tydings (Dem., Md.) and Representative O'Connor (Dem., N.Y.) as obstructors of New Deal.

17—District Attorney Dewey opens case against Hines.

18—Mr. Roosevelt, at Ivy Lea, Ont., declares "the United States will not stand idly by" if Canada is attacked.

26—New York State Constitutional Convention submits nine proposals. Those later ratified by popular vote include more State spending for grade-crossing elimination, State loans for housing, broader social welfare and expansion of New York City's borrowing power for transit unification.

30—Senator Smith renominated in South Carolina despite Roosevelt intervention.

SEPTEMBER

4—Patrick Cardinal Hayes, Archbishop of New York, dead at 70.

12—Justice Pecora grants mistrial asked by counsel for Hines in policy racket case because Dewey mentioned "poultry racket" while cross-examining defense witness.

Senator Tydings renominated in Maryland.

20—Representative O'Connor, opposed by Mr. Roosevelt, loses in New York Democratic primary, but is nominated by Republicans.

21—Hurricane strikes New England, Long Island, New York and New Jersey, killing more than 500 and wrecking tens of millions of dollars worth of property.

OCTOBER

9—New York Yankees win World Series.

17—Governor Lehman appoints John Harlan Amen to inquire into Brooklyn corruption, superseding District Attorney Geoghan.

27—Federal court enjoins Mayor Hague against denying civil liberties to C.I.O. organizers.

NOVEMBER

8—Election results: In New York, Governor Lehman (Dem.) and Senator Wagner (Dem.) are reelected; James M. Mead (Dem.) becomes new Senator. Republicans capture State Legislature. James H. Fay (Dem.) defeats Representative O'Connor (Democrat, running as Republican).

In the nation, Republicans gain eight Senate seats, eighty seats in the House and eleven Governorships.

17—Secretary Hull signs trade pacts with Great Britain and Canada.

DECEMBER

1—Temporary National Economic Committee begins inquiry into monopoly.

14—F. Donald Coster, president of McKesson & Robbins, arrested for false reports.

16—Coster, identified as Philip Musica, vanished swindler, kills himself.

23—Harry L. Hopkins appointed Secretary of Commerce to succeed Daniel C. Roper.

31—Barkley re-elected by Democrats as majority leader in Senate.

POLITICAL EVENTS

(After adjournment of Congress)

June 17—Campaign investigators warned New Deal agencies to keep hands off the elections.

June 18—Senator Barkley, opening primary campaign, defended New Deal spending as beneficial to all.

June 21—Close race in Minnesota Gubernatorial primary regarded as an upset to New Deal.

June 28—New Deal councils divided over the choice of foes within party to be listed for "purge"; Senator Nye defeated Governor Langer in North Dakota Senatorial primary.

July 6—Senator Tydings faced fight by ardent New Dealers for Senatorial nomination in Maryland.

July 12—Senator Thomas was renominated in Oklahoma Senatorial primary; Senator Van Nuys was renominated in Indiana and McNutt was hailed by the party convention for the Presidency in 1940.

July 15—Senate campaign fund investigating committee ordered vote "fraud" inquiry in Kentucky and Pennsylvania.

July 15—Postmaster General Farley, in Seattle speech, urged Young Democrat Clubs of America to join the President in a fight for "a Roosevelt Congress to support Roosevelt policies."

July 18—New Deal "purge" was lifted from Senator Lonergan; he declared that he favored the President and that Attorney General Cummings approved him.

July 22—Senator Adams crushed his New Deal opponent as Colorado Democrats designated their party slate.

Aug. 2—Senate Campaign Inquiry Committee assailed both sides in Barkley-Chandler race in Kentucky; Senators McGill of Kansas and Clark of Missouri renominated; two New Dealers defeated for House nomination in Virginia primaries.

Aug. 3—Senator Holt held that Senator Clark's landslide renomination put Missourian in line for Presidential consideration in 1940.

Aug. 4—Senator Berry defeated for Senatorial renomination in Tennessee primaries.

Aug. 6—Roosevelt's primary "purge" called off for the present; survey indicated public was against it; Senator Barkley renominated in Kentucky over Governor Chandler; anti-Roosevelt men talked of restoring the two-thirds rule to block his renomination in 1940 convention.

Aug. 9—Senator Pope, New Dealer, defeated for renomination in Idaho; Mrs. Caraway in Arkansas and Senator Bulkley in Ohio renominated.

Aug. 15—Senator George, opening his Georgia campaign against the Roosevelt "purge," urges fight on "one-man" rule.

Aug. 18—Representative O'Connor alleged that the Roosevelt "purge" was an "escalator to dictatorship"; R. F. C. counsel in Georgia, a friend of Senator George, resigned position under orders.

Aug. 20—Landon declared he would not accept the nomination "in the remote contingency" that it was offered to him in 1940.

Aug. 24—Senator Sheppard, after Roosevelt complaint, proposed limiting primary voting to the members of one party; Hamilton, replying to Roosevelt's attack on voting by Republicans in Democratic primaries, asked if the President would change State laws.

Aug. 26—Senator Sheppard threatened to call on Department of Justice to stop WPA campaigning; Republican leaders from thirteen mid-Western States met in Indiana to map campaign.

Aug. 30—Sheridan Downey, exponent of $30-a-week pension movement, defeated Senator McAdoo for Senate in California primaries; Senator

Berry demanded that Sheppard committee investigate WPA political activity in Tennessee; Senator Smith, a target of "purge," defeated Johnston, New Dealer, in South Carolina Senatorial primary.

Sept. 3—Democratic Congressional campaign committee rebuffed President on aid to liberal Republican nominees; Senator Sheppard announced plans to seek restraints on expenditures in Senatorial campaigns.

Sept. 6—Senator Tydings, in report to the Sheppard Campaign Committee, charged coercion of Federal employes by officials; Senator McCarran was renominated in Nevada, defeating two "100 per cent New Dealers" in the primary.

Sept. 9—President Green of A. F. of L. endorsed Senator Davis of Pennsylvania for re-election as a friend of labor; Hoover declared the President's plea for election of "liberals" meant a "Bedlamite" party.

Sept. 14—Senator George, target of "purge," renominated in Georgia; Connecticut Democrats in convention renominated Senator Lonergan; Vandenberg urged "realities" in government to free business.

Sept. 17—Vandenberg assailed government by executive decree as an invasion of Constitution.

Sept. 20—Hopkins told Senator Sheppard that one of fifteen charges of WPA politics in Kentucky was valid.

Sept. 28—Herbert Hoover urged support of Roosevelt's peace move but attacked the New Deal.

Oct. 19—Landon, in Illinois speech, declared New Deal's farm and relief programs were utter failures.

Nov. 2—Sheppard Campaign Committee reports evidence of voting fraud in Hague stronghold in New Jersey.

Nov. 8—General elections. Republican party had net gains of eighty seats in the House of Representatives, eight seats in United States Senate and eleven Governors of States. As a result of the election, make-up of Senate in Seventy-sixth Congress is sixty-nine Democrats, twenty-three Republicans, two Farm-Laborites, one Independent and one Progressive, compared with a showing in the Seventy-fifth Congress of seventy-six Democrats, fifteen Republicans, two Farm-Laborites, one Independent, one Progressive and one Democratic vacancy. In the House in Seventy-sixth Congress the showing is 262 Democrats, 169 Republicans, one Farm-Laborite, two Progressives and one American-Laborite, compared with 334 Democrats, eighty-nine Republicans, five Farm-Laborites and seven Progressives in Seventy-fifth Congress.

Nov. 12—Third-party movement for Progressives weighed at conference of Mayor La Guardia, Governor Murphy of Michigan and Senator Bulkley.

Nov. 13—Governor Murphy conferred with Roosevelt and, after the talk, rejected the idea of a third party.

Nov. 23—McNutt's candidacy for President in 1940 as a "middle-of-roader" was announced.

Nov. 28—Senator Norris asserted that Roosevelt would have to run in 1940 if the coming Congress should block his program.

Dec. 5—Senator-elect Taft declared he was not a candidate for 1940, but was "not reading myself out."

Dec. 17 — Republicans, including Dewey and Taft, at Hamilton luncheon in Washington discussed strategy in election victory. John L. Lewis opened Labor's Non-Partisan League to all "progressives" in bid to name the Democratic slate in 1940.

Dec. 20—Senator Borah decided to leave the third-term question "to the voters"; Senator Shipstead joined in the opposition to a third term.

Dec. 21—Senator Sheppard announced that the campaign inquiry committee's report to Senate would ask that "teeth" be put into political activity laws.

PERIODICAL PUBLICATIONS

American Mercury
570 Lexington Ave., New York City.

American Political Science Review
305 Harris Hall, Northwestern University, Evanston, Ill.

American Spectator
683 Broadway, New York City.

Commonweal
386 Fourth Ave., New York City.

Congressional Digest
2131 LeRoy Place, Washington, D.C.

Current History Magazine
63 Park Row, New York City.

Events
1133 Broadway, New York City.

Forum and Century
570 Lexington Ave., New York City.

Journal of Political Economy
5750 Ellis Ave., Chicago.

Nation
20 Vesey Street, New York City.

New Republic
40 East 49th Street, New York City.

News-Week
1270 Sixth Ave., New York City.

Political Science Quarterly
Columbia University, New York City.

Polity
105 West Monroe Street, Chicago.

Time
350 East 22nd. Street, Chicago.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

AMERICAN ANTIQUARIAN SOCIETY, Worcester, Mass.

AMERICAN BAPTIST HISTORICAL SOCIETY, Upland Avenue, Chester, Pa.

AMERICAN CATHOLIC HISTORICAL ASSOCIATION, Catholic University, Brookland Station, Washington, D.C.

AMERICAN HISTORICAL ASSN., 740 Fifteenth St., N.W., Washington, D.C.

AMERICAN IRISH HISTORICAL SOCIETY, 132 East 16th St., New York City.

AMERICAN JEWISH HISTORICAL SOCIETY, 3080 Broadway, New York City.

AMERICAN NUMISMATIC SOCIETY, 156th Street at Broadway, New York City.

AMERICAN SCENIC AND HISTORIC PRESERVATION SOCIETY, 287 Convent Avenue, New York City.

AMERICAN SOCIETY OF CHURCH HISTORY, 5757 University Ave., Chicago, Ill.

CANADIAN HISTORICAL ASSN., Ottawa, Canada.

FREETHINKERS OF AMERICA INC., 317 East 34th Street, New York City.

HISPANIC SOCIETY OF AMERICA, 156th St., West of Broadway, New York City.

HOLLAND SOCIETY OF NEW YORK, 90 West Street, New York City.

HUGUENOT SOCIETY OF AMERICA, 2 West 45th Street, New York City.

METHODIST HISTORICAL SOCIETY, 150 Fifth Ave., New York City.

MISSISSIPPI VALLEY HISTORICAL ASSN., Cedar Rapids, Iowa.

NEW ENGLAND HISTORIC GENEALOGICAL SOCIETY, 9 Ashburton Place, Boston, Mass.

PRESBYTERIAN HISTORICAL SOCIETY, 520 Witherspoon Building, Philadelphia, Pa.

PROPORTIONAL REPRESENTATION LEAGUE, 309 East 34th Street, New York City.

SOCIETY FOR THE PRESERVATION OF NEW ENGLAND ANTIQUITIES, 141 Cambridge St., Boston, Mass.

STEUBEN SOCIETY OF AMERICA, 369 Lexington Ave., New York City.

THOMAS PAINE NATIONAL HISTORICAL ASSN., North Ave., New Rochelle, N.Y.

UNITED STATES CATHOLIC HISTORICAL

SOCIETY, 346 Convent Ave., New York City.

WOODROW WILSON FOUNDATION, 8 West 40th Street, New York City.

POLITICAL

ACADEMY OF POLITICAL SCIENCE, Morningside Hghts., New York City.

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN POLITICAL SCIENCE ASSN., 305 Harris Hall, Northwestern University, Evanston, Ill.

LEAGUE FOR INDUSTRIAL DEMOCRACY, 112 E. 19th Street, New York City.

NATIONAL LEAGUE OF WOMEN VOTERS, 726 Jackson Place, Washington, D.C.

NATIONAL MUNICIPAL LEAGUE, 309 E. 34th Street, New York City.

WOMEN'S NATIONAL DEMOCRATIC CLUB INC., Hotel Alamac, 71st Street and Broadway, New York City.

WOMEN'S NATIONAL REPUBLICAN CLUB, 3 West 51st Street, New York City.

DIVISION II

INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

THE UNITED STATES AND EUROPE

By William T. Stone

Vice President, Foreign Policy Association

RISE OF GERMAN DOMINANCE IN EUROPE

Relations between the United States and Europe were profoundly influenced during the year 1938 by the rise of Germany to a position of political and military dominance in Europe. While American foreign policy had begun to veer away from the isolationist trend before the end of 1937, the sequence of events leading up to the Czecho-Slovakian crisis in September, 1938, followed by Germany's anti-semitic campaign in October and November, produced a marked stiffening in the official attitude of the United States Government and a definite shift in American public opinion. Evidence of this changing attitude was found in the strained relations with Germany, which led to the return of Hugh R. Wilson, American Ambassador to Germany, for consultation and report, the launching of an unprecedented national defense program by the Roosevelt Administration, and the initiation of a program for closer inter-American collaboration at the Eighth Pan American Conference held at Lima, Peru in December, 1938.

The effect of events in Europe on American public opinion was reflected in the polls conducted by Dr. George Gallup of the Institute of Public Opinion, and by several other agencies. Early in the year a large majority of opinion apparently believed that the United States would be able to keep out of a European war. Following Germany's seizure of Austria, however, 46 per cent of the voters polled had shifted to the opinion that sooner or later this country would be drawn into a European conflict. Events leading up to the Munich settlement increased Germany's unpopularity, and a majority of 92 per cent of the voters polled indicated distrust of Hitler's promises. Later in the year a survey revealed that 61 per cent of the voters favored a boycott of German-made goods. Opinion also changed on the controversial issue of the Spanish embargo. A survey showed 76 per cent of the American people sympathetic to the Spanish Loyalist government. Still another survey conducted late in the year by *Fortune* returned a 56.3 per cent vote in favor of a Democratic front to restrain dictator nations from further conquest.

PRINCIPLES OF AMERICAN POLICY

Events in the Far East, as well as other developments in Europe, contributed to the formulation of a more "positive" foreign policy by President Roosevelt and Secretary of State Cordell Hull. As Japan's armed forces extended their control over the Yangtze valley and the southern coast of China, capturing Hankow and Canton and pressing deep into the interior, the United States, as well as other western Powers, filed a series of diplomatic protests against the disregard of foreign rights and interests by Japan. These protests, which had little effect on the Japanese campaign to establish a "new order" in East Asia, culminated in a strongly worded note from Secretary Hull delivered in Tokyo Dec. 31, firmly rejecting the Japanese thesis that a "new order" has arisen in eastern Asia, and reserving "all rights of the United States as they exist."

The basic principles underlying American foreign policy were enunciated by Secretary Hull in an important address delivered at the National Press Club in Washington March 17, and restated in subsequent speeches at Nashville, Tenn. June 3, and before the Pan American conference at Lima, Peru. In his Press Club address Secretary Hull pledged that the United States would continue its quest for "justice and morality and peace among nations." This country, he declared, did not propose to beat a retreat in the face of disruptive events abroad or isolationist or pacifist sentiment at home. At Nashville, on June 3, Mr. Hull returned to the same theme with the declaration that "the most important problem now confronting the human race is that of establishing throughout the world . . . an unshakable regime of order under law." He went on to outline four "concrete steps which can and should be taken without delay" and in which this government is prepared to join with other nations: (1) restoration and strengthening of "sound and constructive international relationships"; (2) effective agreement on "limitation and progresssive reduction of armaments"; (3) humanizing "by common agreement" the rules and practices of warfare; (4) exploring all other methods of revitalizing the spirit of international cooperation and in making use of every practicable means of giving substance and reality to such cooperation.

AUSTRIA AND THE CZECHO-SLOVAKIA CRISIS

During the early stages of the European crisis, the Roosevelt Administration maintained an attitude of detached aloofness. Germany's annexation of Austria on March 13 brought no official comment from Washington, though Congressional opinion reflected a strong sentiment for a policy of armed isolation. A few weeks later, when Czecho-Slovakia mobilized 400,000 men in the face of German agitation on the eve of the Czech municipal elections on May 21, the State Department again maintained official silence. During the summer and early autumn, however, the Administration in Washington sought to indicate that the United States could not remain entirely indifferent to the threat of force. On Aug. 20, Secretary Hull delivered a radio address in which he asserted that the nations of the world faced a choice between "chaos" on the one hand and "observance of international obligations and treaties" on the other. "In the circumstances which prevail in the world today," he added significantly, "no nation and no government can avoid participation in determining which course will be taken."

Speaking at Kingston, Ontario two days later, President Roosevelt pledged the United States to defend Canada against any threat of aggression from abroad. In words which were clearly intended to be heard in Europe, the President declared: "I give you assurance that the people of the United States will not stand idly by if domination of Canadian soil is threatened by any other empire."

Thus, up until the first week in September, the White House and the State Department had been pursuing a course designed to impress upon Chancellor Hitler the importance of including the United States in his calculations, while refraining from making any commitment to the European democracies which might involve the country in another World War. During the momentous consultations between Prime Minister Neville Chamberlain and Chancellor

Hitler at Berchtesgaden and Godesberg, President Roosevelt abstained from any public pronouncement and the State Department continued its policy of silence. Not until Europe was faced with the prospect of a complete breakdown in negotiations and the imminent danger of war did the President make any public pronouncement. On Sept. 24, however, it became evident that the conversations which had been taking place between Germany and Great Britain for a peaceful solution of the controversy were in grave danger of breaking down. At this time the German army was in a state of mobilization and steps toward mobilization of both the French and British naval forces were being taken. Military preparations were likewise being made in other European countries. Accordingly, at one o'clock on Monday morning, Sept. 26 President Roosevelt sent an identic message to the Chancellor of Germany, the President of Czecho-Slovakia and to the Prime Ministers of Great Britain and France urging that negotiations for a peaceful solution of the controversy should not be broken off and that no resort be made to force nor to the threat of force.

In this message the President said "the fabric of peace on the continent of Europe, if not throughout the rest of the world, is in immediate danger. The consequences of its rupture are incalculable. Should hostilities break out the lives of millions of men, women and children in every country involved will most certainly be lost under circumstances of unspeakable horror. The United States has no political entanglements. It is caught in no mesh of hatred. Elements of all Europe have formed its civilization. The supreme desire of the American people is to live in peace. But in the event of a general war they face the fact that no nation can escape some measure of the consequences of such a world catastrophe."

He continued by calling attention to the obligations of all the countries of the world to the Kellogg-Briand Pact of 1928 to solve controversies only by pacific methods, and to the means which civilized nations possess to solve peacefully their differences, and concluded by saying: "On behalf of the 130 millions of people of the United States of America and for the sake of humanity everywhere, I most earnestly appeal to you not to break off negotiations looking to a peaceful, fair, and constructive settlement of the questions at issue."

Copies of this appeal were sent to the Polish and Hungarian governments, each of which was advancing claims against the government of Czecho-Slovakia for a prompt solution of their respective minority questions.

ROOSEVELT AND HITLER

Late the next day the President received a response to his appeal from Chancellor Hitler which concluded with the statement that Germany was not to blame for the Sudeten problem and that "the possibilities of arriving at a just settlement by agreement" had been exhausted. On Sept. 28 information reaching the State Department in Washington convinced the President that Europe was on the brink of war. In this situation President Roosevelt dispatched a final appeal directly to the German Chancellor in which he declared that the question before the world "is not the question of errors of judgment or of injustices committed in the past. It is the question of the fate of the world today and tomorrow." He continued:

"Present negotiations still stand open. They can be continued if you will give the word. Should the need for supplementing them become evident, nothing stands in the way of widening their scope into a conference of all the nations directly interested in the present controversy. Such a meeting to be held immediately—in some neutral spot in Europe—would offer the opportunity for this and correlated questions to be solved in a spirit of justice, of fair dealing, and, in all human probability, with greater permanence. In my considered judgment, and in the light of the experience of this century, continued negotiations remain the only way by which the immediate problem can be disposed of upon any lasting basis. Should you agree to a solution in this peaceful manner I am convinced that hundreds of millions throughout the world would recognize your action as an outstanding historic service to all humanity."

In conclusion the President declared that the United States had no political involvements in Europe and would assume no obligations in the conduct of negotiations. "Yet in our own right we recognize our responsibilities as a part of a world of neighbors."

REACTIONS TO MUNICH PACT

Throughout the United States, as in Europe, the first reaction to the Munich settlement was one of relief that war had been averted. During the following weeks, however, when the terms of the settlement became known, many Americans questioned whether too high a price had been paid. In a radio speech Oct. 3, Under-Secretary of State Sumner Welles cautiously voiced the hope that if political appeasement could be brought about in Europe the sacrifice of Czecho-Slovakia might not be in vain. Subsequent developments, however, failed to substantiate this hope, and by the end of the year political tension in Europe continued unrelieved.

RELATIONS WITH GERMANY

Relations with Germany became increasingly strained during the course of 1938. Early in May the State Department protested a decree of the German Government under which all Jews, whether German or foreign nationals, were called upon to register their property holdings in the Reich. Calling attention to the commercial treaty of 1923, the United States asked for assurances that these discriminatory laws would not be applied to citizens of the United States, without exceptions based on race or creed. Following the anti-Semitic campaign launched by the National Socialist government in October, the State Department addressed a series of sharp notes to the German Government.

Relations took another turn for the worse early in November when the anti-Jewish persecutions reached their height. On Nov. 14 Hugh R. Wilson, the American Ambassador to Berlin, was ordered to return to Washington "for consultation and report," a step which led to the recall of Dr. Hans Dieckoff, the German Ambassador in Washington. At the end of the year there was a minor crisis when the German Government entered a formal protest against an anti-Nazi speech delivered by Secretary of the Interior Harold Ickes. The protest was bluntly rejected by Under Secretary of State Sumner Welles, acting in the absence of Secretary Hull in Peru.

THE WAR IN SPAIN

The policy of the Roosevelt Administration with respect to the Spanish civil war was continued unchanged throughout the year, despite increasing public agitation in favor of lifting the embargo on arms shipments to Spain. The embargo policy which forbid the export of arms to both sides in the civil war, had been laid down by Congress in a resolution adopted Jan. 8, 1937 at the request of President Roosevelt. In April, 1938 a campaign to lift the embargo, sponsored by a number of liberal and left-wing organizations gained considerable support in both the Senate and the House, but was crushed when the Administration declared its opposition to any change in policy. In a letter to Senator Pittman, chairman of the Senate Foreign Relations Committee, Secretary Hull declared May 13 that the State Department "would not feel justified" in reversing a policy "calculated to prevent our becoming involved in war situations." Agitation for lifting the Spanish embargo was revived toward the end of the year, but in the face of opposition from church groups and others favoring strict neutrality in the Spanish conflict the Administration delayed in taking any decisive step in advance of the return of Congress in January, 1939.

LATIN AMERICAN RELATIONS

Developments in Europe following the Munich settlement accelerated the trend toward closer political and economic ties between the nations of the western hemisphere. The Roosevelt Administration continued its Good Neighbor policy, despite a protracted controversy with Mexico over the expropriation of American land and oil properties by the Cardenas government. In his opening address to the Eighth Pan American Conference which assembled at Lima Dec. 9, Secretary Hull asserted that an "ominous shadow falls athwart our own continent" and proclaimed the determination of the American nations to oppose either a military or an ideological invasion of the Western Hemisphere. For this program the United States won substantial support from a majority of the Latin American states. However, a somewhat different point of view was voiced by several South American countries headed by Argentina and including the neighboring states of Uruguay, Paraguay and Bolivia. Argentina, which refused to be alarmed by the Nazi-Fascist menace, was reluctant to sign any document which might be interpreted as hostile to any European nation. Complete unanimity was finally achieved in "A Declaration of Solidarity of America," adopted Dec. 22 which embodied a reaffirmation of continental solidarity and a declaration on the part of the American states that "in case the peace, security or territorial integrity of any American Republic is thus threatened by acts of any nature that may impair them, they proclaim their common concern and their determination to make effective their solidarity, coordinating their respective sovereign wills by means of the procedure of consultation . . . using the measures which in each case the circumstances may make advisable."

TRADE RELATIONS

Despite political tension in Europe and the extension of the trade area controlled by the totalitarian states in the Danube Basin and Central Europe, the Roosevelt Administration continued its efforts to remove trade barriers by reciprocal trade agreements. The outstanding accomplishment of the year was the signing on Nov. 17 of reciprocal trade agreements with the United Kingdom and Canada. Both treaties became effective Jan. 1, 1939.

The Anglo-American agreement was heralded as the most important achievement of the entire Hull trade program. This agreement involving specific concessions on trade which totalled $675,000,000 in 1936, comprised not only the United Kingdom but also Newfoundland and the non-self-governing British colonies and laid the foundations for later agreements with the British Dominions. The new Canadian agreement greatly enlarged the benefits enjoyed by both countries under the trade pact signed in 1936.

Other trade agreements signed during the course of the year included pacts with Czecho-Slovakia and Turkey. At the end of the year the United States had concluded agreements with 20 countries representing approximately three-fifths of our total foreign trade.

THE UNITED STATES AND LATIN AMERICA

By Graham Stuart

Professor, Stanford University

CONFERENCE OF AMERICAN STATES

The outstanding event of the year in Latin American relations was the eighth Pan American Conference which opened in Lima, Peru Dec. 9. In the five years that followed the Montevideo Conference of 1933, the political conditions in the world had become ever increasingly critical. The dictatorships of Europe not only threatened their neighbors but were attempting to spread the doctrines of the totalitarian state in the Western World. The Buenos Aires Conference of 1936 had set up for the nations of the Western Hemisphere a structure of peace machinery based upon mutual consultation, but the crises in Europe and the war in the Far East strengthened the desire for a still closer cooperation for peace in the Americas. The Lima Conference afforded this opportunity. The agenda included plans both for an American League of Nations and a Pan American Court of Justice. Not only was opportunity afforded to strengthen and improve the machinery for the peaceful settlement of disputes, but the program contemplated the clarification and coordination of the various treaties looking towards the maintenance of peace. "Hemisphere defense" was the keynote of the conference.

The delegation which represented the United States was one of the most political from a domestic standpoint that has ever been sent abroad. The Administration seemed determined to have a minimum of resistance to realization of the results of the conference. The American delegation of 12 representatives was headed by Secretary of State Cordell Hull, sincere and able advocate of President Roosevelt's Good Neighbor policy. The Republicans were given outstanding representation in the person of Alfred M. Landon, defeated candidate for the Presidency. Dan W. Tracy, president of the Electrical Workers, and Kathryn Lewis, daughter of the head of the C. I. O., represented labor interests. The Catholic church had Rev. John F. O'Hara, president of Notre Dame University, and women's organizations, Mrs. Elise F. Musser. The State Department sent Assistant Secretary Adolf A. Berle, Jr. and legal advisor Green H. Hackworth. The American diplomatic corps furnished Laurence H. Steinhardt, Ambassador to Peru, and R. Henry Norweb, Minister to the Dominican Republic. Chief Justice Emilio del Toro Cuevas of the Supreme Court of Puerto Rico represented the only Spanish-speaking colonial possession of the United States, and Professor Charles G. Fenwick was the delegation authority on international law.

Hardly had the Conference opened before it became evident that, in spite of the Good Neighbor policy, the South American states were dubious about "hemisphere defense" under the hegemony of the United States. Argentina not only rejected all suggestions for an American League of Nations but at first refused to accept any proposals looking towards strengthening the Buenos Aires convention for the maintenance of peace by consultative action. When it was evident, however, that the other Latin American states desired to take some steps towards more effective continental defense, a compromise was reached in the form of a project known as the Declaration of Lima.

This declaration, signed by the 21 American republics, reaffirmed the principle of continental solidarity and the decision to defend it against all foreign intervention. In case the peace, security or territorial integrity of any American republic should be threatened, it was agreed to make effective this solidarity by consultation as established by conventions in force. To facilitate such consultative action the Declaration provided that "the Ministers of Foreign Affairs of the American republics, when deemed advisable and at the initiative of any one of them, will meet in their several capitals by rotation. . . ."

The Declaration of Lima, although not in the form of a convention, by establishing a definite procedure for consultation and at the same time maintaining the principles laid down at Buenos Aires in 1936, was a signal success for Secretary Hull in his efforts to obtain unanimous action against possible autocratic aggression. He was also successful in obtaining unanimous approval of a resolution introduced by the United States delagation committing the Americas to liberal trade practices and more specifically to the endorsement of the negotiation of trade agreements embodying the principle of equality of treatment and the substitution of reasonable tariffs for other forms of trade restriction.

The other project which the United States hoped to have accepted was a treaty uniting in a single instrument the principles embodied in the eight separate peace pacts affecting the Americas which had been signed since the Gondra Convention of 1923. The sub-committee, however, finally voted to refer it back to the Pan American Union for further study.

The United States was able to bring about the defeat of a resolution sponsored by Argentina, Chile and Mexico to prevent diplomatic intervention following the seizure of the property of foreigners. The subject was referred to the experts on international law for further consideration and report at the ninth conference.

The Conference established a precedent in not signing a single treaty or convention. All of its projects were formulated as resolutions or declaration of which 111 were accepted. The Conference was wary of European entanglements to the extent of refusing in committee by a vote of 18 to 3 the Cuban proposal to mediate in the Spanish civil war and by toning down considerably the strong Cuban proposal condemning racial persecution. The Conference again voted adherence to the accepted policy of non-recognition of territory acquired by force.

As in previous conferences, the majority of resolutions pertained to non-political subjects. The resolutions introduced by the United States asking early ratification of the conventions for a Pan American highway and the convention on commercial aviation were approved. Several resolutions were passed pertaining to the protection of Indian art, literature, language and culture. Further efforts were made to increase the exchange of professors and students. Although these steps towards physical and cultural cooperation are overshadowed by the political phases of the Conference, they exert a constantly increasing influence towards the elimination of suspicion and the development of mutual understanding.

The fact that Mr. Landon supported the Hull policies vigorously and openly gave a certain assurance of their permanence. The autocratic powers of Europe and Asia could gather little comfort for themselves as a result of the Conference, for never was the success of democratic processes without coercion of any sort more clearly exemplified.

UNITED STATES COOPERATION WITH LATIN AMERICA

Realizing the need of closer cultural relations with Latin America, the United States established in August, 1938 a new division in the Department of State designated as the Division of Cultural Relations. Headed by Dr. Ben Cherrington, its assigned duties were to study the problems of exchange of professors and students, to encourage the teaching of Spanish and Portuguese in the schools, to improve the facilities for tourist travel and to study the various questions relating to radio in the international field. The Division was given charge of all official international activities in the field of cultural relations and authorized to recommend matters of policy and to supervise their operation.

A committee was set up representing all the departments of the Federal Government to prepare a plan whereby closer cooperation with Latin America might be achieved. This interdepartmental committee in its report of Nov. 29 recommended an extensive program to President Roosevelt. Its more important suggestions covered the naming of additional agricultural attachés to Latin America; surveys of hardwood forest products, soils, climatic factors and disease conditions in the tropics; facilitation of international air commerce, including tourist travel by air; broadening the powers of the Export-Import Bank; development of further cooperation with Latin America to improve broadcasting; and the assignment of various officials of our Government upon an exchange basis to facilitate the exchange of information.

The United States continued its efforts to improve trade relations with Latin America through the extension of its trade agreements program. A trade agreement was signed with Ecuador on Aug. 6 and proclaimed on Sept. 24. Negotiations were also entered into looking towards an agreement with Venezuela.

In order to stimulate both commerce and tourist travel the United States established a new service to the east coast of South America which is to be known as the Good Neighbor Fleet Service. As evidence of its importance a special mission was sent on the S. S. *Brazil* to inaugurate the new service.

The military mission to Brazil, which had already been in existence for four years, had its term extended for two years and an ordnance office added to the four already on the staff. An agreement was signed with Colombia Nov. 23 to send two missions, one naval for a four-year term, and the other military aviation for a three-year period. The United States also agreed, subject to Congressional approval, to raise the legation at Bogotá to an embassy upon a reciprocity basis.

All of these evidences of a closer relationship with Latin America indicate that the Roosevelt-Hull policy of the Good Neighbor is bearing fruit. The Western Hemisphere is slowly becoming integrated both commercially and culturally as well as making progress towards closer political relationships.

LAND CONFISCATION IN MEXICO

The administration of President Cárdenas of Mexico has been the most serious threat to the Good Neighbor policy of the Roosevelt Administration. In its support of a socialistic agrarian policy and in its acceptance of the extreme demands of organized labor, it has encouraged the flagrant violation of legal rights of both nationals and foreigners. In the case of American citizens the violations have been particularly serious in the expropriation of agricultural land and in the seizure of the properties of American oil companies.

The United States Government, in a note to the Mexican Government dated March 27, 1938, definitely raised the question as to when and how the Mexican Government intended to make fair compensation for the properties expropriated. When no satisfactory reply was received, Secretary Hull in a long communication of July 21 made a careful and convincing presentation of the American case in the matter of the seizure of agricultural lands. He pointed out that, as regards properties seized between 1915 and 1927, although a Claims Commission had been set up, not a single claim had been adjusted or paid. Subsequent to 1927 additional properties (chiefly farms of a moderate size) to a value of over $10,000,000 had been expropriated by the Mexican Government. Although expressing the greatest sympathy for the purposes of the program of social betterment being carried on by the Meican Government, nevertheless the United States could not accept the realization of this program at the expense of American citizens. He pointed out that the taking of property without compensation is not expropriation but confiscation and that a Good Neighbor policy could not exist where one party disregarded the just rights of nationals of the other owning property within its domain. In conclusion, he proposed that the two governments submit to arbitration the question as to whether the Mexican Government had complied with the rule of compensation as prescribed by international law in the case of the expropriation of agricultural properties owned by the United States and adjust the amount and terms of compensation.

The Mexican Government in its reply of Aug. 3 denied the obligation of the payment of either immediate or deferred compensation for such expropriations and refused to submit the matter to arbitration. Mexico did suggest, however, that representatives of both governments might be appointed to fix the value of the properties expropriated and the method of payment. In his reply of Aug. 22 Secretary Hull denied categorically the Mexican theory of international law and property rights, but agreed to the settlement by a commission, provided Mexico show its good faith by depositing in advance a certain sum monthly for the purpose of compensation when the amount should have been determined. Mexico accepted this solution, and in an exchange of notes early in November it was agreed that two commissioners be appointed and hold their first meeting Dec. 1, and complete the determination of value not later than May 31, 1939. Furthermore, Mexico agreed to pay on or before May 31, 1939, $81,000,000 as the first payment of the indemnities.

MEXICAN OIL CONTROVERSY

The oil dispute which had become serious in 1937 when a strike tied up the whole industry, resulted in a complete break between the Mexican Government and the companies in 1938. A decision by the Federal Labor Board, handed down Aug. 10, 1937, required the oil companies to increase their payments to the workers by about 26,000,000 pesos annually. Its demands for a 40-hour week with pay for 56 hours, vacations of three to four weeks with pay in addition to 16 holidays on full pay, retirement pensions at the age of 55, elaborate housing facilities and free medical services for workers and their families, and for the increase in administrative control of the companies were so extreme that the companies refused to accept them. They did offer increases amounting to approximately 20,000,000 pesos over 1936 levels and when this was refused they instituted injunction proceedings against the findings of the Labor Board before the Mexican Supreme Court.

The Supreme Court handed down its decision March 1, 1938, sustaining the Labor Board in every particular. It is claimed that the companies finally agreed to the 26,000,000 pesos increase, but refused to accept the provisions regarding control of personnel. The Labor Board refused any compromise, and on March 18 President Cárdenas issued a decree expropriating the properties of the American and British companies. The oil companies immediately filed an injunction against the expropriation decree in the District Court and, when this was denied, before the Mexican Supreme Court. The American companies at the same time appealed to the Department of State for support in their legitimate claims. Secretary Hull responded by a note to Mexico followed by a public statement on March 30 that American properties expropriated must "be paid for by compensation representing fair, assured and effective value to the nationals from whom these properties were taken." The next day President Cárdenas assured the United States that "Mexico will know how to honor its obligation of today . . . and yesterday." Unfortunately, serious doubts exist as to Mexican ability to make adequate compensation.

Although the United States Government has not yet taken a definite stand as regards a settlement of the oil dispute, Secretary Hull's notes of July 21 and Sept. 1 insisting upon adequate and prompt compensation for the expropriation of agricultural lands would seem to establish similar principles for the settlement of the oil question. The Mexican Government has found the problem of distribution of its oil a serious one and Mexican labor is receiving less instead of more benefits under government operations. On the other hand, if the United States acquiesces in confiscation here, the next step will undoubtedly be the seizure of mining properties, in which American investors have far more at stake than in oil or land. An unrestricted policy of expropriation without compensation would not only ruin the Good Neighbor policy, but would be a serious obstacle to the ordered progress and development of all the American republics, both internally and in their mutual relations.

CUBA

The strategic position of Cuba renders it a vital point in any scheme of continental defense. With the war clouds threatening both in Europe and in the Far East, the United States could not afford to omit any move which might improve the national defense. An inkling of closer cooperation with Cuba occurred when Colonel Batista, strong man of Cuba, was invited by the United States War Department to attend Armistice Day ceremonies in the United States. He accepted and was given a royal welcome. Although no public announcement was made of any agreement, it was currently reported that Batista was willing to cooperate with the United States in matters of common defense on conditions that no impairment of Cuban sovereignty should result. As evidence of closer cooperation, announcement was made that the United States expected to overhaul and strengthen the naval base at Guantanamo, construct new roads leading to it, and might assist in the construction of a new naval and airplane base at Santiago. To give further proof of its friendly attitude, the United States gave notice Nov. 30 of its intention to negotiate a new trade agreement with Cuba supplemental to the trade agreement of 1934 in which further concessions might be made to Cuba on tobacco and tobacco products and in respect of the import duty on Cuban sugar.

PANAMA AND THE CANAL

Although, while passing through the Panama Canal *en route* to the Lima Conference, Secretary Hull declared that Panama, the crossroads of the New World, might well stand as a symbol for inter-American solidarity, the diplomatic relations between the United States and Panama are still clouded by the failure of the Senate of the United States to approve the Canal Treaty of 1936. As a result of this delay the United States is in arrears in the payment of its rental for the Canal rights and Panama refuses to pay any interest on the 1923 bonds until the United States pays its obligations. In September President Arosemena of Panama urged that the United States approve the Canal Treaty as an aid to better relations.

The fact that serious efforts are being made to enlarge the Canal to permit passage of warships of greater tonnage and to meet the increasing volume of traffic makes the problem of ratification of the Canal Treaty the more important. In his annual report for 1937 Col. C. S. Ridley, Governor of the Canal Zone, recommended the enlargement of the Canal as an important item in the defense program of the United States. The present locks of the Canal, 1,000 feet long and 110 feet wide, would not permit passage of either the *Queen Mary* or the *Normandie,* and the existing aircraft carriers of the United States can barely scrape through.

SETTLEMENT OF BOUNDARY DISPUTES

The United States has played a leading rôle in the settlement of Latin American boundary disputes. The serious conflict threatened between Haiti and the Dominican Republic due to the killing of numerous Haitians in Dominican territory in the fall of 1937 was finally settled amicably in Washington early in 1938. By the terms of the agreement signed Jan. 31, 1938, the Dominican Republic agreed to pay an indemnity of $750,000 to Haiti and to abide by the findings of the Dominican tribunals which were to continue the inquiry into the incidents which led to the conflict. The Dominican Republic also agreed to fix responsibility and publish the results of the investigation. The first indemnity payment was made at the end of February.

The long-drawn-out negotiations to establish permanent peace in the Chaco also came to a successful termination in the current year. Although actual hostilities between Bolivia and Paraguay ceased in June, 1935, the two belligerents could not agree upon a territorial settlement. Representatives of Argentina, Brazil, Chile, Peru, the United States and Uruguay worked for three years in Buenos Aires before a final settlement was achieved. By the terms of the treaty signed July 21, 1938, the dividing line between Bolivia and Paraguay was to be fixed within two months by the presidents of the six nations represented on the arbitration commission in accordance with certain limitations fixed by the treaty. The treaty was approved Aug. 29 by a constituent convention in Bolivia and by a popular referendum in Paraguay. The commission representing the six presidents made its report Oct. 10. Paraguay, the victor in the war, received by far the larger share of the disputed territory. Bolivia retains her oil territory, gets a protected frontier and access to a free port on the Paraguay river.

Other boundary disputes in which the United States was interested were those between Nicaragua and Honduras, which seems well along towards a peaceful settlement, the Beagle Island Channel controversy which Argentina and Chile agreed to submit to Attorney General Homer Cummings and the long-standing Ecuador-Peruvian controversy which failed of settlement due to the abrupt termination of the proceedings by Peru.

UNITED STATES RELATIONS IN THE ORIENT

By Robert T. Pollard

Professor, University of Washington

JAPANESE OVERTURES TO CHINA

Following the capture of Nanking, the Chinese national capital, in December, 1937, Japanese leaders confidently expected that the Chinese would be compelled to make peace. The Japanese terms, communicated to Chiang Kai-shek's Government through German diplomatic channels, required China to join Japan and Manchukuo in an anti-Communist bloc, to permit the establishment in China of demilitarized areas within which special regimes were to be set up, and to facilitate the welding of China, Japan, and Manchukuo into a single economic bloc. In addition, the Chinese Government was to acknowledge its liability for the costs of the war.

The Chinese Government, which meanwhile had been transferred to Hankow, rejected these peace overtures and announced that armed resistance would continue; China's existence as an independent nation must be maintained and the sanctity of treaties upheld. An Imperial Council in Tokyo then decided to have no further dealings with Chiang Kai-shek's Government, to continue military operations until that government had been crushed, and meanwhile to extend recognition to the Japanese-sponsored Provisional Government of North China. As a feature of this new policy, announced Jan. 16, Ambassador Kawagoe was recalled from China; two days later the Chinese ambassador departed from Tokyo. During February, also, the Japanese military campaign in China was resumed. Key cities and the railways in Shantung were occupied with comparative ease. In the southern part of the province, however, the Japanese high command suffered its first major set-back in modern times. At Taierhchwang two Japanese divisions under the command of General Itagaki were cut to pieces, the Chinese capturing great quantities of war materials.

JAPANESE CABINET CHANGES

The military disaster at Taierhchwang early in April precipitated a minor political crisis in Japan. After determined resistance, the 73rd session of the Diet, whose deliberations had ended in March, had been induced to pass the National Mobilization Act, drafted by the Planning Board in collaboration with the army, which gave the government practically unlimited control over the lives and property of Japanese subjects and corporations in times of war or national emergency. Opposition to the measure, which its parliamentary critics charged would provide Japanese Nazis with a short cut to power, subsided only after Premier Konoye had announced that the government had no direct intention of invoking the provisions of the law during the conflict in China. Less than a month later, however, War Minister Sugiyama, Navy Minister Yonai, and the Home Minister, Admiral Suyetsugu, demanded that the Mobilization Law be put into operation, regardless of the premier's assurances to the Diet; in addition the army in China must be substantially reinforced. Rumors circulated that Prince Konoye intended to resign, and the war minister, General Sugiyama, paid a hasty visit to the north China front. On April 21, however, Premier Konoye, who for three weeks had been suffering from "political illness," reappeared at his office in Tokyo and let it be known that no immediate reorganization of the Cabinet was in prospect. A reshuffling of Cabinet posts did, however, come on May 27. General Ugaki replaced Koki Hirota in the Foreign Office, Seihin Ikeda, formerly managing director of the Mitsui enterprises and later governor of the Bank of Japan, became Finance Minister, General Sadao Araki became Minister of Education, and General Seishiro Itagaki replaced Sugiyama at the War Office. Thus, moderates like Ugaki and Ikeda, and extremists like Araki, Sugiyama, and Itagaki agreed for the first time to cooperate in a ministry of all talents.

MILITARY OPERATIONS IN CHINA

The reorganization of the Japanese Cabinet was taken as evidence of the government's determination to end the war by the speedy capture of Hankow. With reinforcements from Japan as well as military transfers from Shansi the advance down the Tientsin-Pukow Railway was resumed. Suchow, at the junction of the Tientsin-Pukow and the Lung-Hai Railways was occupied late in May. Along the latter railway the Japanese then moved westward toward Chengchow, where the Lung-Hai crosses the Peiping-Hankow line. In June this advance was halted by disastrous floods which resulted when the Chinese cut the dikes along the Yellow River. Meanwhile a combined military-naval force had begun to push westward along the Yangtze River. Anking fell on June 12 and Kiukiang on July 26. The next day the Chinese Foreign Office at Hankow was moved to Chungking and preparations were made to transfer other departments of the government to points further inland.

JAPANESE-SOVIET RELATIONS

Late in July complications along the Manchurian frontier caused a temporary suspension of the campaign against Hankow. Relations between Japan and the Soviet Union had been strained by border incidents, disputes over Japanese fishing rights in Russian waters, the Japanese refusal to make a current payment of over 5,000,000 yen for the Chinese Eastern Railway, and alleged Soviet aid to Chiang Kai-shek's Government. On July 11, Soviet troops occupied Changkufeng, a hill close to the borders of Korea, Manchukuo, and the Maritime Province. The Japanese ambassador in Moscow demanded that the Soviet troops be withdrawn. M. Litvinov, declining to yield, insisted that a Sino-Russian treaty of 1886 gave the Soviet Union clear title to the area. A Foreign Office spokesman in Tokyo threatened the use of force; Litvinov retorted that force would be met with force. Additional border clashes were reported meanwhile from Khabarovsk, Suifenho, and Manchuli, and when heavy fighting took place at Changkufeng early in August there was general expectation that the two nations were drifting into open warfare. In Tokyo, however, the War Office showed an unaccustomed disposition to allow the issue to be settled by the diplomats, particularly after the German Government informed Ambassador Togo on Aug. 9 that if a general war with the Soviet Union developed, Japan could expect from the Reich complete sympathy but no material assistance. The next day the Japanese and the Russians agreed to a truce. Under its terms, the troops on each side were to retain at least temporarily the positions held by each at the time hostilities were suspended, and a border commission consisting of two Soviet representatives, one Japanese, and one Manchukuoan was to deal later with the demarcation of the frontier. A minor victory for the Russians was apparent from the fact that for years the Japanese had insisted that Russians, Manchukuoans and Japanese should be represented equally on such a commission.

CAPTURE OF HANKOW AND CANTON

The diplomatic settlement with the Soviet government left the Japanese free to resume the campaign against Hankow. Chinese resistance, however, made the advance both costly and slow. The strain in Japan was evident from the fact that already, during June and July, the government had been compelled to invoke sections of the National Mobilization Act restricting the consumption of metals and raw materials, curtailing imports except those necessary for war purposes and the development of foreign trade, and limiting prices. Those who sought a speedy end of the conflict demanded, therefore, that Canton be captured as a means of cutting off the supply of munitions going to Chiang Kai-shek's armies by way of Hongkong and the Canton-Hankow Railway. Foreign Minister Ugaki, fearing complications with the British Government, resisted this demand. Late in September, however, negotiations which led up to the Munich settlement on Sept. 30 appeared to indicate clearly that neither the British nor the French would take effective measures to stop the Japanese advance southward. On Sept. 29 Ugaki resigned, ostensibly in protest against the determination of the Japanese War Office to set up a China Affairs Board directly under the Cabinet rather than under the control of the Foreign Office. Subsequently Hachiro Arita was named foreign minister.

Just two weeks after General Ugaki's retirement, a strong Japanese force landed at Bias Bay, only 12 miles north of the British leased territory of Kowloon. The capture of Canton followed on Oct. 21. Four days later Japanese troops entered Hankow. In Tokyo, however, War Minister Itagaki warned the Japanese public that the conflict was not yet ended; in fact, hostilities had just begun and the Japanese people must be prepared for necessary sacrifices during a long period of reconstruction in China.

CHINESE RESISTANCE INTENSIFIED

On this single point, the Japanese and the Chinese leaders were in agreement. Despite the fall of Hankow, Chinese officials in Chungking announced that they would not surrender nor would they accept mediation. In the retreats from Canton and Hankow the best of the Chinese troops had been saved. A million first-line troops were still in the field; in addition reserves totaling 2,000,000 were either ready for action or undergoing training. Guerilla warfare in Japanese occupied territory continued and would be intensified. Reserves of munitions, oil, and other supplies had been accumulated in the mountains west and southwest of Hankow. In addition, four land routes still connected the Chinese Government and its armies with the outside world: the narrow-gauge French railway from Hanoi to Yunnanfu, a second French railway to the Kwangsi border from which highways and a railway rapidly nearing completion led northward, a newly constructed highway from the Burmese frontier into Yunnan, and a highway across Outer Mongolia linking Sianfu and Lanchow with the Soviet border and the Trans-Siberian railway. Over this fourth route, as across the deserts of Sinkiang, Soviet planes were still able to reach China.

One effect of the war upon Japan was the steady growth of totalitarian regimentation. In China, by contrast, it had the effect of dissolving the monopoly of power long enjoyed by Chiang Kai-shek and his associates.

The first step in this direction was taken in September, 1937, when a united front involving the Kuomintang and the former Communists of the Eighth Route Army was achieved. Early in April, 1938, an extraordinary National Congress of the Kuomintang, meeting secretly at Hankow, named Chiang Kai-shek *Tsung Tsai.* The Chinese term means "leader" in the sense that Sun Yat-sen was leader; it does not mean dictator. At the same time Wang Ching-wei was named Deputy Leader. The same congress provided for the organization of a Peoples Political Council with a membership of 150. On this Council were represented every Chinese province, including the provinces of Manchuria, such outlying territories as Mongolia and Tibet, and practically every political faction in the country. The Communists were allowed to name seven members. The Communist leader, Chou En-lai, characterized the congress which thus broadened the foundations of Chiang Kai-shek's government as the most satisfactory in ten years.

POLITICAL REORGANIZATION IN CHINA BY JAPAN

Meanwhile Japanese leaders attempted to repair the damage done by the forced withdrawal from North China and the coastal provinces of the government which formerly functioned at Nanking. Not long after the military occupation of North China, a Provisional Government was organized at Peiping which, in January, 1938, absorbed the East Hopei Autonomous regime which the Japanese had set up two years earlier. Late in March, also under Japanese sponsorship, a Central China government was organized at Nanking. In November a Chinese Peace Maintenance Commission was inaugurated at Hankow in the expectation that its functions would subsequently be turned over to a permanently organized government under Chinese leaders. Japanese plans included also the creation of a regional government at Canton. It was the Japanese expectation that these regional regimes would eventually be united loosely under a federal government for all China, and as a step in this direction the United Council of the Republic of China took form in September, with three representatives each from the Peiping and the Nanking regimes. Such Japanese leaders as General Doihara intrigued to secure the services of the retired war-lord, Wu Pei-fu, as titular head of this all-China government. Marshal Wu, however, declined to be hastened into acceptance. Nor was General Doihara more successful in inducing other reputable Chinese leaders to accept office in the newly formed regional governments. Those who did accept were without political or other standing in the country, and they had to be guarded constantly against the threat of assassination.

Despite the difficulties of political reconstruction in China, Prince Konoye announced to his people on Nov. 3 the firm Japanese intention to establish a new order in East Asia having for its foundation a tri-partite relationship of mutual aid and coordination among Japan, Manchukuo, and China in political, economic, cultural, and other fields. Among the purposes of this new order was a joint defense against Communism. What Japan desired was that China should cooperate in the task of ushering in this new order. Japan confidently anticipated that the other Powers would correctly appreciate her aims and policy and would adapt their attitude to the new conditions prevailing in this part of the world.

ECONOMIC EXPLOITATION OF CHINA

Prince Konoye's pronouncement merely gave general sanction to long standing Japanese plans for the economic exploitation of occupied territories in China. On June 1 Chinese tariff rates, particularly those on Japanese goods, were sharply reduced. Although Japanese merchants were permitted to enter the interior with comparative freedom, their foreign competitors who desired to follow suit were denied permits on grounds of military necessity. At Shanghai foreigners were denied access to property lying only a few miles beyond the limits of the International Settlement. At Tsingtao exchange restrictions practically stopped the export by American firms of Chinese products, and only Japanese ships were permitted to use the docks of the inner harbor. Despite parallel protests from the American, British, and French Governments, foreign shipping was excluded from the Yangtze River, even after the fall of Hankow, although Japanese ships under military protection continued to carry both war supplies and other goods. In November a semi-official Central China Development Company was set up, similar in scope and purpose to the company which had previously been given a charter to operate in North China. Meanwhile Chinese public utilities had been turned over wholesale to newly incorporated Japanese companies. Public assurances that these new Japanese corporations had no intention of monopolizing the commerce of China or of interfering with existing or future foreign enterprises were received elsewhere than in Japan with pronounced skepticism.

ANGLO-AMERICAN FRONT

To meet this obvious challenge, something akin to an Anglo-American diplomatic front developed. Since the outbreak of the war in 1937, Japanese policy had been directed steadily toward the prevention of any such contingency. Japanese spokesmen went out of their way to praise the neutral attitude of the American Government while condemning alleged British assistance to the Chinese government. A conciliatory reply was returned to the American note of Jan. 17, 1938, protesting vigorously against the damage done by Japanese military units to American property at Nanking, Hangchow, and elsewhere. Nor was any official resentment provoked by the American note of Feb. 18 reiterating that if American nationals or their property were injured in the course of Japanese military operations in China, the Japanese government would be held responsible. In April, just one month after the American claim for damages done to the *Panay* was presented, the Japanese paid the claim in full. In another studied effort to remain on friendly terms with the United States, the Japanese Government announced in March that it would henceforth issue no licenses to its vessels for salmon fishing in Alaskan waters.

Developments in other directions, however, raised doubts in Japanese minds concerning the degree to which American isolation from Great Britain could be relied upon. In January the two governments appeared to be working together to protect the International Settlement at Shanghai against the threat of Japanese domination. On Feb. 6, also, the American, British, and French ambassadors at Tokyo presented practically identical notes asking bluntly if the Japanese were not, as suggested by current rumors, building battleships in excess of the 35,000-ton limitation upon which the three Powers had agreed at London, or cruisers larger than 10,000 tons. In its reply of Feb. 12, the Japanese Government declined to give the specific information asked for, and the three treaty Powers soon afterward announced their intention of invoking the escalator clause of the London agreement. Another development which gave the Japanese cause for concern was the presence of three American cruisers—the only foreign warships invited—at the dedication of the Singapore naval base on Feb. 14.

The capture of Canton, suggesting that the Japanese were turning their attention southward, gave particular concern to the British and the French. The British Government had for some time been perfecting the defenses of Hongkong. French fear lest the Japanese seize Hainan Island resulted in diplomatic warnings at Tokyo which the British Government showed a willingness to support. French warships, in addition, were concentrated at Saigon and the construction of a naval base at Cam Ranh was begun. The Japanese press, meanwhile, charged that the Chinese Government was receiving aid from both French and British sources, and contrasted this "unneutral" attitude with that of the German government which, in June at the urgent solicitation of Japan, had ordered the withdrawal from China of the German military mission, letting it be known at the same time that no more German munitions would be shipped to China. The government of the Reich had, also, in May entered into formal treaty relations with Manchukuo, its example being followed in July by Italy. In November, Franco-Japanese tension was eased somewhat by the announcement that supplies for the Chinese government would no longer be shipped through Indo-China.

CLOSING OF THE OPEN DOOR IN CHINA

French policy was influenced chiefly by fear concerning the safety of Indo-China. British and American policy, on the other hand, was more directly concerned with economic interests in China. Consequently the British stood squarely behind Secretary Hull's sharp note of Oct. 6 to the Japanese Government demanding the cessation of discriminatory measures against American commerce in China, the abandonment of Japanese-sponsored monopolies which denied to Americans equality of opportunity, and the elimination immediately of Japanese interference with the legal rights generally of Americans in China. The Japanese reply, delivered Nov. 9, denied flatly that there had been any infringement of the principle of equal opportunity, but expressed at the same time the conviction that any attempt to apply to the 'new situation in East Asia past ideas and principles would neither contribute to the establishment of real peace or solve immediate problems.

The clear implication of Mr. Arita's reply to Secretary Hull was that the Nine Power Treaty of Washington, relating to the Open Door, was obsolete and should be formally scrapped. In subsequent interviews with the British and American ambassadors in Tokyo, Arita left no doubt that this was the intention of his government. What was equally apparent was the Japanese determination to terminate the exceptional rights long enjoyed by foreigners in China, including particularly those relating to extraterritoriality and residential concessions. The Powers interested in the preservation of these special rights as well as the principles of the Open Door were therefore compelled to reconsider their tactics.

AMERICAN AND BRITISH LOANS TO CHINA

Since diplomatic protests at Tokyo quite obviously fell on deaf ears, perhaps positive assistance should be extended to the Chinese Government which was resisting actively the Japanese claims to hegemony over the Far East. In November, Chiang Kai-shek informed the British ambassador very frankly that if British aid was not forthcoming, China would be compelled to turn elsewhere. The degree of enthusiasm attending the celebration at Chungking early in the same month of the anniversary of the Russian revolution left no doubt of the direction in which China would turn. Early in December, therefore, the Under-Secretary for Foreign Affairs announced in the British House of Lords that the government was giving serious attention to the question of a Chinese loan. Acting even more promptly, the American government on Dec. 15 announced that a loan of $25,000,000 had been made to the Chungking Government.

Meanwhile reports were current that Chiang Kai-shek, regardless of whether or not British and American aid could be anticipated, had finally decided to arm the peasantry, intensify the guerilla warfare as a partial substitute for frontal resistance, and organize the people on the principle of a nation in arms. For many years the Chinese Communists had been consistent advocates of such a program. Should it actually materialize. China may have its first real social revolution in more than 2,000 years.

THE UNITED STATES AND THE NEAR EAST

By Wilbur W. White

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IRAQ

During 1938 the activities of the countries in the Near East varied from the pursuits of peace to almost open warfare. In Iraq two boundary settlements were reached, the ratification of an agreement with Iran in March and the negotiation of agreements with Saudi Arabia in mid-summer. Two important economic agreements were also completed. On Dec. 1 an oil concession was granted to the Basrah Petroleum Company, a British corporation with some French and American interests, and on Dec. 3 the first American commercial treaty was signed.

SYRIA AND THE LEBANON

In Syria and the Lebanon, except for the Alexandretta crisis, the problems were chiefly internal. In the former there was an attempt on the life of the premier in June and a change of government in July; in the latter a plot against the government was put down in May, there was a change of government in October, and a strike and demonstration against the new Cabinet in November. Late in December agitation for immediate independence arose in Syria because France, partly due to Italian colonial demands, had not yet ratified the treaty of 1936 looking forward to Syrian independence in 1939.

ARABIAN PENINSULA

In Saudi Arabia several of the wells of the California Arabian Standard Oil Company came into production near the Persian Gulf. An important settlement concerning the Arabian peninsula was included in the Anglo-Italian agreement of April 16. In this document the two powers agreed to refrain from impairing the independence of, and seeking to obtain a privileged position in, Saudi Arabia or the Yemen, and Italy recognized the British protectorate over the Hadhramaut, the southern part of the peninsula. This did not prevent the consideration of the strategic importance of the islands at the southern end of the Red Sea when Italian pressure on French Somaliland was reported late in December.

EGYPT

The most important events in Egypt related to the elections. On Dec. 30, 1937 Mohammed Mahmud had been appointed premier, replacing Nahas, the leader of the Wafd party which until shortly before had enjoyed an overwhelming popularity. On Jan. 3, 1938, in spite of a vote of non-confidence, Parliament was adjourned for a month, and in February the Premier secured a dissolution of the chamber.

The election campaign appeared to be chiefly a contest between the Wafd and the Liberal party of Mahmud. The former ran on its record and an appeal to party loyalty. The latter, with the backing of the popular king, who was married Jan. 20, charged Nahas with dictatorial ambitions and had a platform of constitutionalism, liberty, sound government, prosperity and adequate national defense. During the campaign a third group appeared, composed of former Wafdists who had been read out of the party during the preceding eight months. Though willing to cooperate with Mahmud, they claimed adherence to the original principles established by Saad Zaghloul, the great Egyptian nationalist. They called themselves the Saadists or Saadist Wafd. The elections, the most acrimonious in years, were held March 31 and April 2. Mahmud's party received 99 seats, an increase of 53; the Saadists polled 84 seats, the so-called Independents 68, and the Wafd a mere 12. After some difficulties as to personnel, Mahmud formed a

Cabinet of five Liberals, five Saadists, and three Independents.

Egypt's good relations with Great Britain continued, and on Aug. 4 the Premier secured revision of certain details of the 1936 treaty of alliance. For a time after the Czech crisis, Italian-Egyptian relations seemed to improve though they were again strained by Italian colonial ambitions late in the year.

TURKEY

The year 1938 may well be considered the most momentous year in the history of the Turkish Republic. Important questions rose from time to time in the realms of economics, defense, and foreign relations, but all were finally overshadowed by the death of President Atatürk and the election of Ismet Inönü as his successor. During the early months of the year, the Turkish Government, like many others, made plans for rearmament, inaugurating a five-year program paying particular attention to the air force.

One of the most spectacular questions in all the Near East during the year was the development of the problem of the sanjak, or district, of Alexandretta, a problem which had threatened to become critical for over a year. In January the Turks objected that they were not represented on the League of Nations commission which was to carry out the elections in the district, so their government was granted representation on a supervisory committee. Even then the elections, originally scheduled for April 15, 1938, were repeatedly postponed.

In June the situation became so critical that the French proclaimed martial law. Turkey was still not satisfied that this would guarantee a sufficiently favorable result for the Turks, so entered into negotiations with France for joint action in maintaining order. On July 3–4 a series of agreements was reached, including a pact of friendship and agreements regarding the security of the sanjak and entrance of Turkish troops to assist the French. The elections were held in August, and on Sept. 2 the Assembly of the Republic of Hatay was convened. The republic is internally independent, but its foreign relations are controlled by Syria with which it has a customs and monetary union. Its territorial integrity is guaranteed by France and Turkey.

No better example could be found of Turkey's policy of trying to steer a course between great Powers, without becoming committed too much to any one or any group of them, than the Turkish loans secured from Great Britain and Germany. Late in May a British loan of $80,000,000 was secured, followed in October by the German loan of about $60,000,000. The latter particularly, following the Munich settlement, provoked much speculation as to whether Turkey was drifting into the orbit of the Third Reich. It seems more likely, however, that the effects of these loans will approximately offset each other, and it will take more than this to force Turkey from her midway position between the dictatorships and the democracies.

On Jan. 12 Secretary of State Hull issued formal notice that the Government of the United States would open negotiations for a reciprocal trade agreement with Turkey. Such an agreement, the first with any Near Eastern state, was initialed the following December, though formal signature was not expected until January, 1939.

During the year the Turkish Republic observed three major celebrations. The first was May 19, the date of the beginning of the revolutionary movement in 1919. The second was a cultural birthday, Aug. 9, the tenth anniversary of the modernization of the alphabet. The third, Oct. 29, the fifteenth anniversary of the establishment of the republic, was overshadowed by the illness of the President.

On Nov. 10 the nation was plunged into sorrow by the announcement of the death of President Kemâl Atatürk. Literally the father of the Turkish Republic, he had been the leader and guiding spirit through the days of the formation and establishment of the new regime. According to the constitutional forms his successor was elected the next day. The new President is Ismet Inönü, former general and long-time Premier, who was generally looked upon as the logical choice. Some speculation has arisen as to possible changes that may occur, but the new government is committed to the maintenance of the principles laid down by the founder of the republic.

PALESTINE

The year was marked in Palestine chiefly by extended violence and the reversal of British policy proposed for that area. The year 1937 had witnessed the suggestion of partition as the solution of the recurrent problem of the Holy Land; 1938 saw the rejection of the partition idea. The first step taken by the British Government was in the form of a white paper issued Jan. 4. While adhering to the idea of partition as the best possible solution, the government judged it necessary to appoint a commission to study the practical aspects of the partition plan suggested by the Peel commission. This new commission was to determine the boundaries of the proposed divisions and study the economic and financial questions involved, with liberty to suggest modifications of the plan if necessary. The commission, under the chairmanship of Sir John Woodhead, proceeded to Palestine in April, where it remained until August. For some weeks thereafter it took further testimony in London. Its report was published Nov. 9.

Early in the year there was also a shift in the administrative personnel responsible for the administration of the mandate, Sir Harold MacMichael, an experienced colonial administrator, replacing Sir Arthur Wauchope as High Commissioner, and Malcolm MacDonald succeeding Ormsby Gore as Colonial Secretary in the British Cabinet. Hopes were held in many quarters that the new High Commissioner would be able to succeed where his predecessor had not.

During these moves for settlement, however, the situation in Palestine had given no indication of quieting down. Rioting and bloodshed occurred intermittently throughout the late winter and spring. In April the British Government considered it necessary to build a barbed-wire barricade along the Syrian frontier to prevent the free influx of arms and men to assist the rebellious Arabs. This fence became known as Tegart's Wall, after its builder, Sir Charles Tegart, the head of the Palestinian police. In spite of these precautions and an increase of British troops in the country, the violence grew. In June the danger arose that the extremist Revisionist Zionists might further involve the conflict by attempting to reply to Arab terrorism by a similar campaign of their own. In July and August Arab markets were bombed in Haifa and Jaffa with the casualties amounting to several dozen persons in each instance. On Oct. 2 there was a massacre of over 20 Jews by Arabs in Tiberias. These, however, were only the most violent phases of a year in which hundreds of lives were lost, over 1,000 persons injured, hundreds of thousands of dollars worth of property destroyed, and communication and transportation from time to time disrupted. The Arabs, in the autumn, seized control of various towns, holding even Bethlehem and the old city of Jerusalem for a time.

During October, as the date for the publication of the Woodhead commission's report approached, a rumor arose that the British were contemplating yielding to the Arabs and disregarding the Balfour Declaration concerning the Jewish National Home in Palestine. Immediately thousands of protests, not alone from Jews, descended upon the Governments of Great Britain and the United States. Palestine had become a part of the larger refugee question, and a closing of the doors to Jewish immigration there would further increase the hardships of the thousands of unfortunates in Europe.

On Oct. 14 Secretary of State Hull issued a statement in reply. He pointed out that, under the Anglo-American treaty of Dec. 3, 1924, the Government of the United States can

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submit its views regarding its rights in Palestine under that treaty. Those rights include that its citizens shall have judicial safeguards and equality of treatment with other foreigners, and non-discriminatory treatment in the enjoyment of property rights and commerce, and in educational, philanthropic, religious and archaeological projects. He added that the government does not have the right to veto a change in the mandate but only to make representations to Great Britain for the maintenance of existing rights.

The Woodhead report was published Nov. 9. During the course of its labors the commission considered partition not merely from the point of view of the plan outlined by the Peel report but also along suggestions of two other partition plans of its own. The weaknesses of all of the greatly outweighed their advantages, however, so the commission recommended against partition. With the report the British Government issued a statement as to its next steps. It proposed calling a conference of the Arabs and Jews to see if some method of settlement could not thus be worked out. If this should fail, however, the Government stated that it would then formulate a policy which it would enforce. As the year closed preparations were going forward for the conference. Partition had been abandoned. But if Arab-Jewish agreement should be impossible, and it is faced with enormous difficulties, the British Government is committed to discovering a policy for Palestine and putting that policy into effect.

FOREIGN SERVICE OF THE UNITED STATES

By Nathaniel P. Davis

Division of Foreign Service Administration, Department of State

ADMINISTRATION

Regulations.—In connection with the Foreign Service Act of Feb. 23, 1931, the administrative regulations embodied in Executive Orders (Nos. 5642/4, June 8, 1931) are of special importance. These regulations give practical effect to some of the chief purposes of the act. They set up machinery whereby it is put into operation by providing for a Board of Foreign Service Personnel, a Board of Examiners, a Foreign Service Officers' Training School, and a Foreign Service Officers' Training School Board.

Board of Foreign Service Personnel.—The duties of this Board are to examine into the character, ability, efficiency, experience and general availability of all members of the Service with a view to promotions, transfers and separations; to consider controversies or delinquencies among Service personnel, and to recommend those officers who have shown special capacity for promotion to the grade of minister. The Board is composed of not more than three Assistant Secretaries of State, one of whom shall be the Assistant Secretary having supervision over the Division of Foreign Service Personnel, who shall be chairman. The Chief of the Division of Foreign Service Personnel and one other member of the division may attend the meetings of the Board, but are not entitled to vote in its proceedings.

Board of Examiners.—The duties of the Board are to formulate rules to determine the scope and method, and hold examination of applicants for commission to the Foreign Service, and to determine those who are fitted for appointment. The examinations, which shall be both written and oral, are open only to Americans of good standing between the ages of 21 and 35 specially designated by the President for examination, who have been citizens of the United States for at least 15 years. American clerks and employees in the Foreign Service are granted certain exceptions concerning age and may be exempted by the Board from the written examinations. The Board is composed of not more than three Assistant Secretaries of State designated by the Secretary of State, the Chief of the Division of Foreign Service Personnel, and the Chief Examiner of the Civil Service Commission.

OFFICERS' TRAINING SCHOOL

Purposes.—The purpose of this school is to provide a term of instruction in the Department of State as a period of probation for those successfully passing the examinations given by the Board of Examiners, and to judge, during this peirod, the new appointees to the Service as to their qualifications for advancement and assignment to duty as a Foreign Service officer. The governance of the school is set forth in rules and regulations prescribed by the Secretary of State. The school is under the direction of the Foreign Service School Board.

Foreign Service School Board.—The duties of the Board are to act in all matters concerning the functions of the school with the approval of the Secretary of State; to select the director of the School from among the officers of the Foreign Service with the approval of the Secretary of State, and in its discretion to select other instructors from among the qualified officers of the Department of State, the Foreign Service, the executive departments of the Government, and other available sources. The Board is composed of the Assistant Secretaries of State composing the Board of Foreign Service Personnel, one Foreign Service officer assigned for duty in the Division of Foreign Service Personnel, and the director of the School.

PERSONNEL

Changes.—During 1938 one examination was held on Sept. 12, 13 and 14 for appointment to the American Foreign Service. At this examination 466 took the written tests. The successful candidates will present themselves for oral examination early in 1939.

Promotions from the Ranks.—Since 1925, when the policy was formulated of promoting outstanding officers of the Service to the grade of Minister and Ambassador instead of recruiting them solely from civil life, there have been marked advances. Of a total complement of 18 Ambassadors and 36 Ministers, nine of the former and 15 of the latter have previously served in the ranks of the Foreign Service or of the Department of State. In addition, the Diplomatic Agent and Consul General at

CLASSIFICATION, FOREIGN SERVICE, 1938

	Salary	Number as of December 14, 1938
Heads of Missions		
Ambassadors	$17,500	18
Ministers	12,000	1
Ministers	10,000	35
Diplomatic Agent and Consul General (Tangier)	FSO *	1
Minister Resident and Consul General (Baghdad)	FSO *	1
		56

* Foreign Service Officer

Foreign Service Officers		
Class 1	$9,000–$10,000	33
Class 2	8,000– 8,900	40
Class 3	7,000– 7,900	41
Class 4	6,000– 6,900	63
Class 5	5,000– 5,900	68
Class 6	4,500– 4,900	96
Class 7	4,000– 4,400	93
Class 8	3,500– 3,900	91
Unclassified (a)	3,000	87
Unclassified (b)	2,750	47
Unclassified (c)	2,500	56
		715

Clerks — Senior		
Class 1	$4,000	1
Class 2	3,750	2
Class 3	3,500	7
Class 4	3,250	16
Class 5	3,000	53
Clerks — Junior		
Class 1	2,750	57
Class 2	2,500	112
Class 3 all under	2,500	1439
		1687

Note—For growth and development of the Foreign Service of the United States see The American Year Book for 1934, p. 50.

Tangier, Morocco, and the Minister Resident and Consul General at Baghdad, Iraq, are Foreign Service Officers.

Losses to the Service.—During 1938 there were four deaths, seven retirements and four resignations from the Foreign Service. At present the Service totals 715 career officers.

DIPLOMATIC PERSONNEL

AMBASSADORS

Accredited by United States			Accredited to United States	
Argentina	Alexander W. Weddell	1933	Señor Don Felipe A. Espil	1931
Belgium	Joseph E. Davies	1938	Count Robert van der Straten-Ponthoz	1935
Brazil	Jefferson Caffery	1937	Mr. Mario de Pimentel Brandão	1938
Chile	Norman Armour	1938	Señor Don Manuel Trucco	1933
China	Nelson T. Johnson	1935	Dr. Hu Shih	1938
Colombia	Spruille Braden*	1938	Señor Don Miguel López Pumarejo	1938
Cuba	J. Butler Wright	1937	Señor Dr. Pedro Martínez Fraga	1937
Ecuador	—		Señor Capitán Colón Eloy Alfaro†	
France	William C. Bullitt	1936	Count de Saint-Quentin	1938
Germany	Hugh R. Wilson	1938	Herr Hans Heinrich Dieckhoff	1937
Great Britain	Joseph P. Kennedy	1938	The Honorable Sir Ronald Lindsay	1930
Italy	William Phillips	1936	Signor Fulvio de Suvich	1936
Japan	Joseph C. Grew	1932	Mr. Hirosi Saito	1934
Mexico	Josephus Daniels	1933	Señor Dr. Don Francisco Castillo Nájera	1935
Peru	Laurence A. Steinhardt	1937	Señor Don Manuel de Freyre y Santander	1930
Poland	Anthony J. Drexel Biddle, Jr.	1937	Count Jerzy Potocki	1936
Spain	Claude Gernade Bowers	1933	Señor Dr. Don Fernando de los Ríos	1936
Turkey	John Van A. MacMurray	1936	Mr. Mehmet Münir Ertegün	1934
Union of Soviet Socialist Republics	(Vacant) ‡		Mr. Alexander Antonovich Troyanovsky	1934

(*) Appointed Minister to Colombia April 27, 1938 but has not assumed office. It is understood nomination as Ambassador Extraordinary and Plenipotentiary to Colombia will be sent to the Senate for confirmation at the session of Congress (January, 1939).

(†) Accredited as Ambassador Extraordinary and Plenipotentiary for the duration of the boundary negotiations between the Governments of Ecuador and Peru.

(‡) Union of Soviet Socialist Republics: Chargé d'Affaires *ad interim:* Alexander C. Kirk.

MINISTERS

Accredited by United States			Accredited to United States	
Albania	Hugh Gladney Grant	1935	Mr. Faik Konitza	1926
Bolivia	Robert Granville Caldwell	1937	Señor Dr. Don Luis Fernando Guachalla	1936
Bulgaria	Ray Atherton	1937	Mr. Dimitri Naoumoff	1936
Canada	(Vacant) (1)		The Honorable Sir Herbert Marler	1936
Costa Rica	William H. Hornibrook	1937	Señor Don Ricardo Castro Beeche	1936
Czechoslovakia	Wilbur J. Carr	1937	Mr. Vladimír Hurban	1936
Danzig, Free City of	C. Porter Kuykendall (Consul in Charge)	1938		
Denmark	Alvin Mansfield Owsley	1937	Mr. Otto Wadsted	1930
Dominican Republic	R. Henry Norweb	1937	Señor Don Andrés Pastoriza	1935
Ecuador	Boaz Long	1938	Señor Capitán Colón Eloy Alfaro	1933
Egypt	Bert Fish	1933	Mahmoud Hassan Bey	1938

Accredited by United States			Accredited to United States	
El Salvador	Robert Frazer	1937	Señor Dr. Don Hector David Castro	1934
Estonia	John C. Wiley	1938	Mr. Charles Kuusik, Acting Consul General of Estonia in New York City in charge of Legation	1932
Finland	H. F. Arthur Schoenfeld	1937	Mr. Eero Järnefelt	1935
Greece	Lincoln MacVeagh	1933	Mr. Demetrios Sicilianos	1935
Guatemala	Fay A. des Portes	1936	Señor Dr. Don Adrian Recinos	1928
Haiti	Ferdinand L. Mayer	1937	Mr. Elie Lescot	1937
Honduras	John D. Erwin	1937	Señor Dr. Don Julian R. Caceres (First Secretary of Legation and Chargé d'Affaires *ad interim*)	
Hungary	John Flournoy Montgomery	1933	Mr. John Pelényi	1933
Iran	(Vacant) (2)		———	
Iraq	Paul Knabenshue (Minister Resident and Consul General)	1932	———	
Ireland	John Cudahy	1937	Mr. Robert Brennan	1938
Latvia	John C. Wiley	1938	Dr. Alfred Bilmanis	1935
Liberia	Lester A. Walton	1935	———	
Lithuania	Owen J. C. Norem	1937	Mr. Povilas Zadeikis	1935
Luxemburg	Joseph E. Davies	1938	———	
Monaco	Paul C. Squire (Consul in Charge)	1936	———	
Morocco	Maxwell Blake (Diplomatic Agent and Consul General)	1925	———	
Netherlands	George A. Gordon	1937	Count W. van Rechteren Limpurg (Counselor of Legation and Chargé d'Affaires *ad interim*)	1937
Nicaragua	Meredith Nicholson	1938	Señor Dr. Don León De Bayle	1937
Norway	Florence Jaffray Harriman	1937	Mr. Wilhelm Munthe de Morgenstierne	1934
Palestine	George Wadsworth (Consul General in Charge)	1935	———	
Panama	Frank P. Corrigan	1937	Señor Dr. Don Augusto S. Boyd	1936
Paraguay	Findley B. Howard	1935	General José Félix Estigarribia	1938
Portugal	Herbert Claiborne Pell	1937	Dr. João Antonio de Bianchi	1933
Rumania	Franklin Mott Gunther	1937	Mr. Radu Irimescu	1938
San Marino	John R. Putnam (Consul General in Charge)	1937	———	
Siam	Edwin L. Neville	1937	Phya Abhibal Rajamaitri	1935
Sweden	Frederick A. Sterling	1938	Mr. W. Boström	1926
Switzerland	Leland Harrison	1937	Mr. Marc Peter	1920
Syria	Ely E. Palmer (Consul General in Charge)	1937	———	
Union of South Africa	Leo J. Keena	1937	Mr. Ralph William Close	1934
Uruguay	William Dawson	1937	Mr. J. Richling	1934
Venezuela	Antonio C. Gonzalez	1938	Señor Dr. Don Diógenes Escalante	1936
Yugoslavia	Arthur Bliss Lane	1937	Mr. Constantin Fotitch	1935

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[1] Canada: Chargé d'Affaires *ad interim:* John Farr Simmons.
[2] Iran: Chargé d'Affaires *ad interim:* Cornelius Van H. Engert.

CHRONOLOGY OF INTERNATIONAL AFFAIRS

(From *The New York Times*, January 2, 1939)

GENERAL

JANUARY

7—Insurgent garrison of 2,000 surrenders to Loyalists at Teruel, Spain.

11—Japanese sailors take Tsingtao, seaport of Shantung in North China.

13—Church of England accepts evolution.

FEBRUARY

5—United States, Britain and France demand Japan reveal whether she is building beyond 35,000-ton treaty limit on battleships.

12—Japan replies to three-power note, refusing to divulge battleship building plans.
Chancellor Kurt Schuschnigg of Austria visits Chancellor Hitler at Berchtesgaden.

16—Hitler's talk at Berchtesgaden revealed as ultimatum. Schuschnigg accepts it, puts pro-Nazi Ministers in control of Austria's police and foreign affairs.

20—Hitler tells Reichstag that 10,000,000 Germans (in Austria and Czecho-Slovakia) must have "self-determination."
Anthony Eden resigns as British Foreign Secretary to protest Premier Chamberlain's policy of appeasing dictators.

MARCH

10—Insurgents launch offensive on Spain's eastern front; capture Belchite.

11—Saying he "yielded only to force," Schuschnigg resigns as German troops and planes cross Austrian border.

13—Union of Austria and Germany proclaimed in Vienna.
Léon Blum forms new French Cabinet three days after Camille Chautemp's resignation.
Eighteen of twenty-one defendants in Soviet treason trial—including Nikolai Bukharin, Alexis Rykoff and other ex-leaders—sentenced to death for "Trotzkyite conspiracy"; three others get prison terms.

18—Mexico expropriates property of seventeen United States and British oil companies on failure to comply with wage decisions.

APRIL

8—Chinese score victory at Taierhchwang, Shantung. Thousands of Japanese trapped.
Blum resigns as French Premier after Senate denies him special financial powers. Edouard Daladier, War Minister, succeeds him, creates an anti-Communist Cabinet and later gets special powers.

15—Spanish Insurgents reach Mediterannean at Vinaroz, cutting Loyalist Spain in two.

16—Anglo-Italian pact signed in Rome. Britain to promote recognition of Ethiopia; Italy to withdraw troops from Spain.

21—Douglas Hyde, Protestant, chosen without opposition President of Eire (Ireland).

28—Anglo-French defensive alliance formed during Daladier visit to London.

MAY

3-8—Hitler visits Rome; assures Mussolini Alpine border will be inviolate.

20—Japanese occupy Chinese key rail junction of Suchow after retrieving losses at Taierhchwang.

21—Czecho-Slovakia garrisons German border, on rumors of German troop movements.

JUNE

16—Yellow River floods bog Japanese drive.

21—All major powers agree at London on plan to evacuate "volunteers" from Spain.

23—Germany conscripts labor for short-term work on "nationally urgent tasks."

JULY

5—Thirty-two nation parley to aid refugees, convoked by Mr. Roosevelt, meets in Evian.

9—British troops dispatched from Cairo to suppress Arab uprising in Palestine.

19—King George and Queen Elizabeth of Britain visit Paris.

21—Japan and Russia quarrel over Siberia border line.

22—Britain and France reject German proposal for four-power settlement of Sudeten problem because Czechs would have no voice.

26—Spanish Loyalists cross Ebro River, capture many towns in sudden counter-offensive.

AUGUST

10—Soviet-Japanese truce ends "miniature war" on Far Eastern border.
11—German commercial plane flies non-stop Berlin-New York in 25 hours.
21—General Franco rejects Non-Intervention Committee's agreement for withdrawal of foreign fighters from Spain.
29—Hitler inspects forts on French border as Czech crisis becomes acute.

SEPTEMBER

6—Hitler opens Nazi party congress at Nuremberg. France reinforces Maginot Line.
7—Sudeten party breaks off negotiations.
12—Hitler at Nuremberg says "oppression of Sudeten Germans must end."
14—Czech Government declares martial law in Sudeten districts.
15—Prime Minister Chamberlain flies to visit Hitler at Berchtesgaden on Czech crisis.
16—Prague mobilizes army, outlaws Sudeten party; thousands of Sudetens flee to Reich.
19—Britain and France agree to Hitler's demands, urge Prague to give Sudeten areas to Germany.
21—Czech Government accepts partition ultimatum.
22—Chamberlain sees Hitler at Godesberg. Hitler stiffens demands. Czech "capitulation government" resigns.
23—Chamberlain sends Hitler "definite terms," voiced at Godesberg, to Prague. Czechs carry out general mobilization. France orders partial mobilization.
24—Hitler demands Sudeten cession by Oct. 1.
26—Roosevelt appeals to Hitler and President Benes of Czecho-Slovakia to settle controversy peacefully.
28—Hitler invites Chamberlain, Mussolini and Daladier to Munich meeting.
30—Munich conferees agree to Hitler's demands on Czecho-Slovakia. Chamberlain and Hitler sign communiqué asserting the "desire of our two peoples never to go to war with one another again."

OCTOBER

1—German troops begin occupying Sudeten area. Czecho-Slovakia yields to Polish demand for Teschen area.
5—Benes resigns as Czecho-Slovak President.
21—Japanese capture Canton, main port of South China.
23—Hungary threatens Czecho-Slovakia in territorial demand.
28—Germany arrests thousands of Polish Jews, rushes them across Polish border.

NOVEMBER

2—German and Italian Foreign Ministers draw new boundary for Slovakia, giving Hungary most of what she asked.
5—Hungarians begin occupying ceded section of Slovakia.
7—Herschel Grynszpan, 17-year-old son of Polish Jew deported from Germany, shoots Ernst von Rath, German diplomat in Paris.
10—Nazis retaliate for Grynszpan's act by smashing Jewish stores, burning synagogues throughout Germany; thousands of Jews arrested.
President Kemal Ataturk of Turkey dies.
12—Germany imposes 1,000,000,000-mark "fine" on Jews; forbids them to engage in trade.
14—United States calls Berlin Ambassador home for "report and consultation."
16—Britain recognizes Italian empire over Ethiopia and puts Anglo-Italian pact of April into effect.
18—Germany recalls Washington Ambassador for report on United States attitude.
30—One-day general strike in France, protesting Daladier's decrees for longer working hours, is broken by government.
Italians shout demands for Tunisia, Corsica, Nice and Savoy from France.

DECEMBER

6—France and Germany sign "good neighbor" treaty disclaiming territorial designs.

9—Eighth Pan American Conference opens in Lima, Peru.

23—Spanish Insurgents launch Catalonia drive.

24—Lima conference adopts declaration of American solidarity.

31—State Department rejects Japanese program for "new order" in China.

U.S. FOREIGN RELATIONS

(After adjournment of
75th Congress)

June 17—United States, denying Germany was not responsible for Austrian debt, insisted on payment.

June 25—Reich exempted United States Jews, domiciled outside Germany, from registering property there.

June 30—Secretary Hull denied implied charges that United States had put financial pressure on Mexico.

July 2—United States warships sped to Swatow, China, to rescue Americans endangered by bombs.

July 10—United States and British warships left Kiukiang when Japanese fleet began shelling Yangtze city.

July 11—Five United States-owned mines in Mexico were taken over for operation by unions.

July 12—United States, British and French Governments confirmed Evian agreement setting up international body to handle European refugee problem.

July 15—United States challenged Mexican workers' seizure of an American-owned mine; President Roosevelt asked George Rublee to head permanent European refugee body, as Evian meetings ended.

July 16—Japan's reply to United States protest said China's chaos restricted American rights there.

July 21—Hull, in note to Mexico, demanded arbitration of land seizures; the "good neighbor" policy at stake.

Aug. 6—United States trade agreement with Russia renewed for another year; Soviet to spend $40,000,000 here; Lord Runciman saw Ambassador Wilson at Prague.

Aug. 16—World program for peace was set forth by Hull in radio speech; viewed as aimed at Central Europe.

Aug. 19—Indicated that State Department would push St. Lawrence seaway plan despite opposition of Ontario.

Aug. 25—Hull, in note to Mexico, asked halt in land seizures and arrangements for payment.

Aug. 26—Mexican press assailed Hull's note on land seizures as an attempt to violate sovereignty; United States sent a sharp protest to Japan over attack on Chinese airliner.

Aug. 27—Hull, on tenth anniversary of Kellogg-Briand pact, reminded nations of their pledges; President Roosevelt accepted Berle's resignation as Assistant Secretary of State; Pierson of Export-Import Bank mapped aids for United States trade in Brazil after conference at Rio de Janeiro.

Sept. 3—Ambassador Bullitt declared France and United States were "indefectively united in war as in peace."

Sept. 4—Mexican note rejected United States demands for immediate payment for expropriated foreign properties.

Sept. 9—President Roosevelt denied that United States was allied with European democracy in "Stop Hitler" movement.

Sept. 10—Hull accepted invitation to attend Lima Conference; he noted present need for international order.

Sept. 25—President Roosevelt appealed to European nations to continue negotiations for peaceful solution of Czecho-Slovak crisis.

Sept. 26—Senators and Representatives praised Roosevelt's appeal but stressed need for strict neutrality; American citizens advised to leave Europe.

Sept. 27—State Department warned against travel in Europe; sped return of Americans.

Sept. 28—United States urged Japan to send peace notes to Germany and Czecho-Slovakia similar to Roosevelt's.

Sept. 30—Hull voiced "relief" over Munich accord; he and Roosevelt praised United States officials.

Oct. 1—Hull revealed that Roosevelt on Friday, Sept. 30, had appealed to Poland not to resort to force.

Oct. 5—United States stood firm on barring loans to nations ineligible under the Johnson Act; Japan recalled Saito as Washington envoy and named Horinouchi to succeed him.

Oct. 7—United States sent note to Italy asking that American Jews be exempted from discrimination.

Oct. 14—Hull responded to appeals from Jews; promised to talk with Britain on guarding of rights.

Oct. 18—White House received a protest from Arab group against United States' interference in Palestine; Mexican Ambassador conferred with Hull relative to the land seizure dispute.

Oct. 19—Ambassador Joseph P. Kennedy told Britons that the democracies and dictators should forget differences.

Oct. 22—Senator Wagner conferred with Roosevelt on Palestine appeal and was hopeful of influence on Great Britain; United States Navy ignored Japanese warning that ships would be endangered by Hankow and Canton attacks; Mexico seized Standard Oil subsidiaries' headquarters building and Ambassador Daniels protested, citing injunction.

Oct. 24—United States liner at Shanghai yielded to Japanese and unloaded $2,800,000 bullion to get clearance; Mexico decreed final expropriation of 43,237 acres from five American persons and companies.

Oct. 27—United States, in note, demanded that Japan respect American rights in China and insisted on maintenance of the "Open Door"; President Cardenas halted seizure of United States farm lands pending talks on past agrarian debts.

Oct. 31—Half of Congress and thirty Governors appealed to Roosevelt to aid Jews in Palestine.

Nov. 1—Mexican Ambassador reported an accord with Washington on expropriation of small estates.

Nov. 2—Mexico seized 100 acres of land from Americans after promising respite during negotiations; Tokyo held the Nine Power Treaty was obsolete; Washington reaffirmed its validity.

Nov. 4—Hull stressed that the United States supported the Nine Power Treaty safeguarding China.

Nov. 6—Under-Secretary of State Welles urged New World solidarity to ensure safety from any threat of attack.

Nov. 10—Mexico and United States ended accord on farm lands; oil companies attacked seizures in petition in court.

Nov. 11—Colonel Batista of Cuba conferred with Roosevelt; denied discussing loan or military base.

Nov. 12—Mexico agreed to pay United States in plan to end the dispute over seizure of land from Americans; notes from United States, Britain and France protested Japan's ban on Yangtze commerce.

Nov. 13—Landon was appointed as a delegate to the Lima conference; Mexico claimed victory in land pact with United States, seeing principle of delayed payment admitted.

Nov. 14—Washington summoned Ambassador Wilson from Berlin; displeased at developments in Germany.

Nov. 18—Germany recalled Ambassador Dieckhoff to report on Roosevelt's "singular behavior"; Roosevelt acted to allow refugees already here to remain when their visas expire; President Green of A. F. of L. urged the nation to boycott the Reich; Japan's reply to United States protest insisted that principles of the past no longer applied to China.

Nov. 22—United States notes asked the Reich to exempt Americans from disabilities on Jews; Ambassador Dieckhoff left Washington; Hull was not satisfied with Japan's reply to our protests on "Open

Door" violations; Herbert Hoover denounced the terror of dictators.

Dec. 4—Hull pledged aid to furthering American trade, in a statement at Guayaquil; United States gunboat sailed down the Yangtze from Hankow with a Japanese naval guard.

Dec. 5—The Export-Import Bank decided to lend $50,000,000 to Cuba in a triangular deal.

Dec. 7—United States reminded Germany of Americans' rights, in connection with new anti-Jewish decrees; Hull, arriving at Lima, visited other delegation chiefs, enlisting support for "American system."

Dec. 8—Hull, in radio talk preceding Lima conference opening, barred exclusion of the Old World; Mexico concluded a $17,000,000 oil barter deal with the Reich, the German navy to get fuel; United States note to Germany indicated Nazi decrees were in contravention of the 1923 accord.

Dec. 9—Anthony Eden, in address before American manufacturers, said the democracies must meet the challenge of a world dominated by force; United States studied way to check Mexico in sale of expropriated oil; Europe assured of cooperation as Pan American parley opened at Lima.

Dec. 10—Hull and Cantilo, at Lima parley, said there was no room in the Americas for totalitarian ideas.

Dec. 15—Ambassador Kennedy, returning for vacation, said the British "appeasement" policy must continue, if peace was to be maintained; Export-Import Bank authorized a $25,000,000 credit for China to buy American products; sharp note to Germany demanded that there be no discrimination against Americans; details of United States proposal to implement peace machinery revealed at Lima, where the United States offered a plan combining best features of eight peace treaties.

Dec. 16—Lima Conference adopted Hull's policy of no trade restrictions other than tariffs.

Dec. 18—Secretary Ickes assailed Americans who accepted dictators' decorations, challenging Ford and Lindbergh; Landon declared at Lima Conference that the Monroe Doctrine would not change, despite party shifts.

Dec. 19—United States Treasury renewed credit to China on gold, a rebuff to Japan; solidarity action held up at Lima as Argentines awaited further instructions.

Dec. 20—Argentina refused to yield on solidarity at Lima, but Hull was still hopeful; Rublee was invited, after two months' wait, to Germany to confer on a plan for Jews' migration.

Dec. 21—Lima delegates deferred action for five years on American League and a unified peace pact; Argentina offered her own declaration on American unity, rejecting draft of majority at Lima.

Dec. 22—United States abruptly rejected sharp Reich protest against Secretary Ickes's Cleveland speech criticizing Ford and Lindbergh for having accepted German decorations and condemning German persecution of Jews; American nations neared accord at Lima on solidarity declaration; China bought 1,000 trucks from General Motors and Chrysler, using new American credit.

Dec. 23—Argentina signed the Lima Declaration on solidarity of the Americas; Brazil delayed unanimous action.

Dec. 24—Twenty-one republics at the Lima Conference signed an agreement to resist aggression.

PERIODICAL PUBLICATIONS

American Journal of International Law
700 Jackson Place, Washington, D.C.

Current History Magazine
63 Park Row, New York City.

Events
1133 Broadway, New York City.

II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

Foreign Affairs
45 East 65th. Street, New York City.

Foreign Policy Bulletin
8 West 40th. Street, New York City.

Foreign Policy Reports
8 West 40th. Street, New York City.

Living Age
63 Park Row, New York City.

Pacific Affairs
129 East 52nd. Street, New York.

Pan American Union Bulletin
Pan American Union, Washington, D.C.

Time
350 East 22nd. Street, Chicago.

World Affairs
734 Jackson Place, Washington, D.C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

Academy of Political Science in the City of New York, Fayer-Weather Hall, Columbia University, New York City.

American Academy of Political and Social Science, 3457 Walnut St., Philadelphia, Pa.

American Arbitration Association, 8 West 40th St., New York City.

American Peace Society, 734 Jackson Place, Washington, D.C.

American Political Science Association, 305 Harris Hall, Northwestern University, Evanston, Ill.

American Society of International Law, 700 Jackson Place, N.W., Washington, D.C.

Carnegie Endowment for International Peace, 700 Jackson Place, N.W., Washington, D.C.

Council on Foreign Relations, Inc., 45 East 65th Street, New York City.

Foreign Policy Assn., 8 West 40th Street, New York City.

International Reform Federation, 134 B St., N.E., Washington, D.C.

League of Nations Assn., 8 West 40th St., New York City.

National Council for Prevention of War, 532 17th Street, N.W., Washington, D.C.

People's Lobby, Inc., 817 Fourteenth St., N.W., Washington, D.C.

Women's International League for Peace and Freedom, 150 Fifth Avenue, New York City.

Women's Peace Union, 2 Stone Street, New York City.

World Peace Foundation, 40 Mount Vernon Street, Boston, Mass.

REGIONAL

American Asiatic Assn., 1 Hanover Square, New York City.

China Society of America, 570 Lexington Avenue, New York City.

Committee on Cooperation in Latin America, 254 Fourth Ave., New York City.

English-Speaking Union of the United States, 30 Rockefeller Plaza, New York City.

Far East Conference, 21 West Street, New York City.

French Institute in the United States, 22 East 60th Street, New York City.

Friends of Irish Freedom, 132 East 16th Street, New York City.

Japan Society, Inc., 527 Fifth Ave., New York City.

Netherland-America Foundation, 630 Fifth Ave., New York City.

Pan-American Society, Inc., 67 Broad Street, New York City.

Pan-Pacific Union, 1067 Alakea Street, Honolulu, Hawaii.

PART TWO

AMERICAN GOVERNMENT

DIVISION III

THE NATIONAL GOVERNMENT

FEDERAL ADMINISTRATIVE ORGANIZATION

BY WILLIAM M. SCHUYLER

EDITOR, *The American Year Book*

THE PRESIDENT AND VICE-PRESIDENT

President.—Franklin Delano Roosevelt, of New York (Democrat). Sworn into office as President of the United States, March 4, 1933, in succession to Herbert Hoover, and inaugurated for second term Jan. 20, 1937.

Vice President.—John Nance Garner of Texas (Democrat), inaugurated Vice President of the United States, March 4, 1933, and inaugurated for a second term Jan. 20, 1937.

Secretaries to the President.—Marvin Hunter McIntyre (Kentucky); Stephen Early (Virginia); Marguerite A. Le Hand, personal secretary.

Presidential Vacancy.—By Act of Congress, in the case of vacancy occurring in the office of President through the death or removal of both the President and Vice President, the Cabinet officers succeed to the Presidency in the order indicated in the arrangement of the following summary of the executive departments:

DEPARTMENT OF STATE

Secretary of State.—Cordell Hull.

Under Secretary of State.—Sumner Welles.

Assistant Secretaries of State.—George S. Messersmith, Francis B. Sayre, Adolf A. Berle, Jr.

Foreign Service Personnel Board.—George S. Messersmith, chairman; Francis B. Sayre.

Legal Advisor.—Green H. Hackworth.

Counselor.—R. Walton Moore.

Economic Adviser.—Herbert Feis.

Chief Clerk and Administrative Assistant.—Edward Yardley.

Assistant to the Secretary of State.—Harry A. McBride.

Chiefs of Divisions.—

Far Eastern Affairs.—Maxwell M. Hamilton.
American Republics.—Laurence Duggan.
European Affairs.—Jay Pierrepont Moffat.
Near Eastern Affairs.—Wallace Murray.
Passport.—Ruth B. Shipley.
Current Information.—Michael J. McDermott.
Foreign Service Administration.—Nathaniel P. Davis.
Foreign Service Personnel.—G. Howland Shaw.
Protocol.—George T. Summerlin.
International Conferences.—Richard Southgate.
International Communications.—Thomas Burke.

Treaty.—Charles M. Barnes.
Research and Publication.—Cyril Wynne.
Trade Agreements.—Harry C. Hawkins.
Visa.—Avra M. Warren.
Communications and Records.—David A. Salmon.
Cultural Relations.—Ben M. Cherrington.
Accounts.—Laurence C. Frank.

Chiefs of Bureaus.—
Translating.—Emerson B. Christie.

Chiefs of Offices.—
Arms and Munitions Control.—Joseph C. Green.
Consular Commercial.—James J. Murphy, Jr.
Editor of Treaties.—Hunter Miller.
Historical Advisor.—Hunter Miller.
Co-ordination and Review.—Blanche Rule Halla.
Fiscal and Budget Affairs.—Charles B. Hosmer.
Foreign Service Buildings.—Frederick Larkin.
Foreign Service Officers' Training School.—J. Klahr Huddle.
Philippine Affairs.—Joseph E. Jacobs.

DEPARTMENT OF THE TREASURY

Secretary of the Treasury.—Henry Morgenthau, Jr.

Charged with the management of the national finances; prepares plans for the improvement of the revenue and support of the public credit; superintends collection of the moneys paid from and into the Treasury; controls construction of public buildings, coinage and printing of money, and the administration of the Coast Guard and the Public Health Service; *ex-officio* chairman of the Federal Reserve Board and of the Federal Farm Loan Board.

Under Secretary of the Treasury.—John W. Hanes.

Assistant Secretary in Charge of Public Health.—Vacant.

Assistant Secretary in Charge of Customs, Coast Guard and Narcotics.—Stephen B. Gibbons.

Fiscal Assistant Secretary.—Wayne C. Taylor.

Special Assistants to the Secretary.—Herbert E. Gaston, D. W. Bell, Le Roy Barton, Harold N. Graves, Eugene S. Duffield.

Administrative Assistant to the Secretary.—William H. Reynolds.

Chief Clerk.—F. A. Birgfeld.

Commissioner of the Public Debt Service.—William S. Broughton.

Commissioner of Accounts and Deposits.—E. F. Bartlet.

General Counsel.—Herman Oliphant.

Chiefs of Divisions.—
Appointments.—James E. Harper.
Bookkeeping and Warrants.—Joseph Greenberg.
Deposits.—E. D. Batchelder.
Loans and Currency.—Marvin Wesley.
Paper Custody.—M. A. Emerson.
Accounts and Audit.—M. R. Loafman.
Monetary Research.—Harry D. White.
Tax Research.—Roy Blough.
Research and Statistics.—George C. Haas.
Secret Service.—Frank J. Wilson.
Procurement.—Rear Admiral Christian Joy Peoples, Director.
Chief Disbursing Officer.—Guy F. Allen.

Comptroller of the Currency.—Preston Delano.

Has supervision of the national banks, their examination and reports; preparation and issue of national bank circulation; redemption and destruction of national bank notes. *Ex-officio* member of the Federal Reserve Board in which capacity he draws a salary of $7,000 in addition to the salary of $5,000 attached to the office proper of Comptroller of the Currency.

Treasurer of the United States.—William A. Julian.

Charged with the receipts and disbursement of all public moneys deposited in the Treasury and Sub-Treasuries and in national banks depositories.

Director of the Bureau of the Budget.—Daniel W. Bell (acting).

Commissioner of the Bureau of Customs.—James H. Moyle.

Commissioner of the Bureau of

Internal Revenue.—Guy T. Helvering.

Charged with general supervision of the collection of all internal revenue taxes, including the income tax, and the enforcement of internal revenue laws.

Federal Alcohol Administration.—W. S. Alexander, Administrator.

Director of the Bureau of the Mint.—Nellie Tayloe Ross.

Has general supervision of the mints and assay offices.

Commissioner of Narcotics.—H. J. Anslinger.

Register of the Treasury.—Edward G. Dolan.

Director of the Bureau of Engraving and Printing.—Alvin W. Hall.

Produces all the securities and similar work of the Government printed from steel plates.

Bureau of the Public Health Service.—Thomas Parran, Surgeon General.

Charged with the framing and enforcement of regulations for the prevention of the introduction and spread of contagious disease; supervision of the quarantine service of the United States, and supervision of the marine hospitals.

National Institute of Health.—Assistant Surgeon General L. R. Thompson, Director.

Federal Board of Hospitalization.—Brigadier General Frank T. Hines, Chairman.

Coast Guard.—Rear Admiral Russell R. Waesche, Commandant.

Office of the Supervising Architect.—L. A. Simon, Supervising Architect.

Custom House.—Franklin A. M. Shafer, Deputy Collector in Charge.

DEPARTMENT OF WAR

Secretary of War.—Harry Hines Woodring.

The Assistant Secretary of War.—Louis Johnson.

Administrative Assistant and Chief Clerk.—John W. Martyn.

Executive Assistant to the Secretary of War.—Charles W. Koester.

Clerk to the Secretary of War.—John W. Schott.

War Department General Staff.—General Malin Craig, Chief of Staff; Brigadier General Lorenzo D. Gasser, Deputy Chief of Staff.

Office of the Chief of Cavalry.—Major General John K. Herr, Chief.

Chief of Field Artillery.—Major General Robert M. Danford.

Chief of Coast Artillery.—Major General Archibald H. Sunderland.

Chief of Infantry.—Major General George A. Lynch.

Chief of Chaplains.—William R. Arnold.

The Adjutant General.—Major General Emory S. Adams.

The Inspector General.—Major General Walter L. Reed.

The Judge Advocate General.—Major General Allen W. Gullion.

The Quartermaster General.—Major General Henry Gibbins.

Chief of Finance.—Major General Fred W. Boschen.

Surgeon General.—Major General Charles R. Reynolds.

Chief of Engineers.—Major General Julian L. Schley.

Chief of Ordnance.—Major General C. M. Wesson.

Chief Signal Officer.—Major General J. O. Mauborgne.

Chief of the Air Corps.—Major General H. H. Arnold.

Chief of the Bureau of Insular Affairs.—Brigadier General Charles Burnett.

Director of Aircraft Production.—Col. Jacob E. Fickel.

Philippine Islands.—United States High Commissioner, Paul V. McNutt.

Puerto Rico Government.—Blanton Winship, Governor.

Chief of the National Guard Bureau.—Major General Albert H. Blanding.

Chief of the Chemical Warfare Service.—Major General Walter C. Baker.

The Army War College.—Major General John L. De Witt, Commandant.

The Army Industrial College.—Lt. Col. F. H. Miles, Jr., Director.

DEPARTMENT OF JUSTICE

Attorney General.—Frank Murphy. Represents U.S. in all legal matters.

Solicitor General.—Robert H. Jackson.

Assistant to the Attorney General.—Joseph B. Keenan.

Assistant Attorneys General.—Thurman W. Arnold, James W. Morris, Brien McMahon, Sam E. Whitaker, Carl McFarland.

Director of the Bureau of Investigation.—J. Edgar Hoover.

Executive Assistant to the Attorney General.—Ugo Carusi.

Administrative Assistant.—Thomas D. Quinn.

General Agent.—Herbert J. McClure.

Chief Clerk.—Harvey C. Donaldson.

Appointment Clerk.—John C. Hill.

Chief of the Division of Records.—Bennett Crain (acting).

Chief of the Division of Supplies and Printing.—John F. Holland.

Librarian.—Matthew A. McKavitt.

Director of the Bureau of Prisons.—James V. Bennett.

Pardon Attorney.—Daniel M. Lyons.

POST OFFICE DEPARTMENT

Postmaster General.—James A. Farley.

Administrative Assistant to the Postmaster General.—William C. Lyons.

Secretary to the Postmaster General.—William J. Bray.

First Assistant Postmaster General.—William W. Howes.

Second Assistant Postmaster General.—Ambrose O'Connell.

Third Assistant Postmaster General.—Ramsey S. Black.

Fourth Assistant Postmaster General.—Smith W. Purdum.

Comptroller and Budget Officer.—William L. Slattery.

Director of Parcel Post.—John A. Brennan.

Solicitor.—Vincent M. Miles.

Chief Post Office Inspector.—Kildroy P. Aldrich.

DEPARTMENT OF THE NAVY

Secretary of the Navy.—Claude A. Swanson.

Assistant Secretary of the Navy.—Charles Edison.

Administrative Assistant and Chief Clerk.—William D. Bergman.

Chief of Division of Records.—Charles M. Baruch.

Budget Officer.—Capt. Ezra G. Allen.

Director of Shore Establishments.—Rear Admiral J. R. Defrees.

Island Governments.—Commander Tulley Shelley.

Guam.—Capt. James T. Alexander, Governor.

American Samoa.—Commander E. H. Hanson, Governor.

Chief of Naval Operations.—Admiral William D. Leahy.

Chief of the Bureau of Navigation.—Rear Admiral James O. Richardson.

Chief of the Bureau of Yards and Docks.—Rear Admiral Ben Moreell.

Chief of the Bureau of Ordnance.—Rear Admiral W. R. Furlong.

Chief of the Bureau of Construction and Repair.—Rear Admiral William G. Du Bose.

Chief of the Bureau of Engineering.—Rear Admiral Harold G. Bowen, Engineer in Chief.

Chief of the Bureau of Supplies and Accounts.—Rear Admiral Charles Conard.

Chief of the Bureau of Medicine and Surgery.—Rear Admiral Ross T. McIntire, Surgeon General.

Chief of the Bureau of Aeronautics.—Rear Admiral Arthur B. Cook.

Judge Advocate General.—Rear Admiral W. B. Woodson.

Naval Consulting Board.—Thomas Robins, Secretary.

Compensation Board.—Rear Admiral Samuel M. Robinson, Senior Member.

General Board.—Read Admiral Thomas C. Hart (Chairman).

President of the Board of Medical Examiners.—Rear Admiral Charles S. Butler.

President of the Naval Examining Board.—Rear Admiral John Downes.

President of the Naval Retiring Board.—Rear Admiral Charles S. Butler.

Naval Dispensary.—Captain Benjamin H. Dorsey, Medical Corps.

Navy Yard and Station, Washington, D.C.—Rear Admiral George Pettengill, Commandant.

Naval Medical Center.—Rear Admiral Harold W. Smith, commanding officer.

Naval Medical School.—Captain William Chambers, commanding officer.

Naval Hospital.—Captain George C. Thomas, commanding officer.

Attendance on Officers.—Commander John L. Frazier, Jr. and Guy B. McArthur, Lieut. Commanders Wendell P. Blake and Harold A. Noreen.

President of the Board for Examination of Medical Officers.—Captain William Chambers.

President of the Board of Examination of Dental Officers.—Captain William Chambers.

Headquarters Marine Corps.—Major General Thomas Holcomb, Commandant.

Naval Examining Board (Marine Corps).—Col. Calvin B. Matthews, President.

Marine Barracks.—Col. William H. Rupertus, commanding.

DEPARTMENT OF THE INTERIOR

Secretary of the Interior.—Harold L. Ickes.

Charged with pensions, public lands, Indian Affairs, geological surveys, reclamation of arid lands, and mines.

Under Secretary.—Harry Slattery.

First Assistant Secretary.—Ebert K. Burlew.

Assistant Secretary.—Oscar L. Chapman.

Chief Clerk.—Floyd E. Dotson.

Solicitor.—Nathan R. Margold.

Director of Classification.—John Harvey.

Commissioner of the General Land Office.—Fred W. Johnson.

Commissioner of the Office of Indian Affairs.—John Collier.

Commissioner of the Office of Education.—John W. Studebaker.

Director of the Geological Survey.—W. C. Mendenhall.

Commissioner of the Bureau of Reclamation.—John C. Page.

Director of the National Park Service.—Arno B. Cammerer.

Director of the Bureau of Mines.—John W. Finch.

Division of Territories and Island Possessions.—Ernest Gruening, Director.

Territorial Officials.—

Alaska.—John W. Troy, Governor.
Hawaii.—Joseph B. Poindexter, Governor.
Virgin Islands.—Lawrence W. Cramer, Governor.
Puerto Rico.—Blanton Winship, Governor.

The Alaska Railroad.—Otto F. Ohlson, General Manager.

Oil Administration.—Harold L. Ickes, Secretary of the Interior, Administrator.

United States Housing Authority.—Nathan Straus, Administrator.

DEPARTMENT OF AGRICULTURE

Secretary of Agriculture.—Henry A. Wallace.

Under Secretary.—M. L. Wilson.

Assistant Secretary.—Harry L. Brown.

Assistants to the Secretary.—Paul H. Appleby, James D. Le Cron, R. M. Evans.

Agricultural Adjustment Administration.—R. M. Evans, Administrator.

Director of Extension Work.—C. W. Warburton.

Director of Research.—James T. Jardine.

Director of Personnel.—Roy F. Hendrickson.

Director of Information.—Milton S. Eisenhower.

Director of Finance and Budget Officer.—W. A. Jump.

Solicitor.—Mastin G. White.

Librarian.—Claribel R. Barnett.

Office of Experiment Stations.—James T. Jardine, Chief.

Weather Bureau. — Commander Francis W. Reichelderfer, Acting Chief.

Bureau of Animal Industry.—John R. Mohler, Chief.

Bureau of Dairy Industry.—O. E. Reed, Chief.

Bureau of Plant Industry.—E. C. Auchter, Chief.

Forest Service.—F. A. Silcox, Chief.

Bureau of Chemistry and Soils.—Henry G. Knight, Chief.

Bureau of Entomology and Plant Quarantine.—Lee A. Strong, Chief.

Bureau of Biological Survey.—Ira N. Gabrielson, Chief.

Bureau of Public Roads.—Thomas H. MacDonald, Chief.

Bureau of Agricultural Economics.—Howard R. Tolley, Chief.

Bureau of Agricultural Engineering.—S. H. McCrory, Chief.

Bureau of Home Economics.—Louise Stanley, Chief.

Commodity Exchange Administration.—J. W. T. Duvel, Chief.

Food and Drug Administration.—W. G. Campbell, Chief.

Soil Conservation Service.—H. H. Bennett, Chief.

Farm Security Administration.—Will W. Alexander, Administrator.

Economic Adviser. — Mordecai Ezekiel.

Office of Land Use Coordination.—M. S. Eisenhower, Coordinator.

Division of Operation.—Joseph Haley, Chief.

Federal Surplus Commodities Corporation.—Jesse W. Tapp, President.

Federal Crop Insurance Corporation.—Milburn L. Wilson, Chairman.

DEPARTMENT OF COMMERCE

Secretary of Commerce.—Harry L. Hopkins.

Assistant Secretaries.—J. M. Johnson, Richard C. Patterson, Jr.

Administrative Assistant to the Secretary.—Malcolm Kerlin.

Solicitor.—South Trimble, Jr.

Chief Clerk and Superintendent.—E. W. Libbey.

Chief of Division of Accounts.—Charles E. Molster.

Chief of Division of Personnel.—Edward J. Gardner.

Chief of Division of Publications.—Thomas F. McKeon.

Chief of Division of Purchases and Sales.—Walter S. Erwin.

Librarian.—Charlotte L. Carmody.

Director of the Bureau of Census.—William L. Austin.

Director of the Bureau of Foreign and Domestic Commerce.—Alexander V. Dye.

Director of the National Bureau of Standards.—Lyman J. Briggs.

Commissioner of the Bureau of Fisheries.—Frank T. Bell.

Commissioner of the Bureau of Lighthouses.—Harold D. King.

Director of the Coast and Geodetic Survey.—L. O. Colbert.

Director of the Bureau of Marine Inspection and Navigation.—Commander Richard S. Field.

Commissioner of the Patent Office.—Conway P. Coe.

DEPARTMENT OF LABOR

Secretary of Labor.—Frances Perkins.

Charged with the duty of fostering, promoting and developing the welfare of the wage earners of the United States and also working towards a solution of labor problems.

The Assistant Secretary.—Charles V. McLaughlin.

Second Assistant Secretary.—Vacant.

Assistant to the Secretary.—Richardson Saunders.

Special Assistant to the Secretary.—Mary La Dame.

Solicitor.—Gerard D. Reilly.

Chief Clerk.—Samuel J. Gompers.

Director of Conciliation.—John R. Steelman.

Director of Labor Standards.—Verne A. Zimmer.

Commissioner of Labor Statistics.—Isador Lubin.

Commissioner of Immigration and Naturalization.—James L. Houghteling.

Chief of the Children's Bureau.—Katharine F. Lenroot.

Director of the Women's Bureau.—Mary Anderson.

United States Employment Service.—W. Frank Persons, Director.

Wage and Hour Division.—Elmer F. Andrews, Administrator.

Division of Public Contracts.—L. Metcalfe Walling, Administrator.

MISCELLANEOUS EXECUTIVE SERVICES

Civil Service Commission.—Harry B. Mitchell, President; Mrs. Lucille

F. McMillin, Samuel H. Ordway, Jr.

Interstate Commerce Commission.—Marion M. Caskie, Chairman; Balthasar H. Meyer, Clyde B. Aitchison, Joseph B. Eastman, Frank McManamy, Claude R. Porter, William E. Lee, Charles D. Mahaffie, Walter M. W. Splawn, Carroll Miller, John L. Rogers.

United States Employees' Compensation Commission.—Mrs. Jewell W. Swofford, Chairman; John M. Morin, John J. Keegan.

General Accounting Office.—Vacant.

United States Railroad Administration.—Henry Morgenthau, Jr., Secretary of the Treasury, Director General.

Federal Reserve Board.—Marriner S. Eccles, Chairman; Ronald Ramson, Vice Chairman; M. S. Szymczak, John K. McKee, Chester C. Davis, Ernest G. Draper.

Federal Trade Commission.—R. E. Freer, Chairman; Ewin L. Davis, W. A. Ayres, Garland S. Ferguson, Charles H. March, Otis B. Johnson, secretary.

United States Tariff Commission.—Raymond B. Stevens, Chairman; Henry F. Grady, Vice Chairman; Oscar B. Ryder, Edgar B. Brossard, E. Dana Duran, A. Manuel Fox, Sidney Morgan, secretary.

United States Board of Tax Appeals.—C. Rogers Arundell, Chairman.

Federal Power Commission.—Clyde L. Ceavey, Acting Chairman; Basil Manly, Claude L. Draper, John W. Scott.

Federal Home Loan Bank Board.—John A. Fahey, Chairman.

Federal Emergency Administration of Public Works.—Harold L. Ickes, Administrator.

Federal Communications Commission.—Frank R. McNinch, Chairman.

Federal Housing Administration.—Stewart McDonald, Administrator.

Civil Aeronautics Authority.—Edward J. Noble, Chairman.

Veterans' Administration.—Brigadier General Frank T. Hines, Administrator; Omer W. Clark, Assistant Administrator, Pensions; Bynum K. Cash, Director of National Homes Service.

Federal Board for Vocational Education.—Frances Perkins, Chairman.

Civilian Conservation Corps.—Robert Fechner, Director.

United States Maritime Commission.—Rear Admiral Emory S. Land, Chairman.

National Advisory Committee for Aeronautics.—Dr. Joseph S. Ames, Chairman.

Federal Board of Surveys and Maps.—C. L. Garner, Chairman.

The Commission of Fine Arts.—Gilmore D. Clark, Chairman.

Reconstruction Finance Corporation.—Jesse H. Jones, Chairman.

National Mediation Board.—W. M. Leiserson, Chairman.

Smithsonian Institution.—

Established 1846 under the terms of the will of James Smithson for the "increase and diffusion of knowledge among men." The former aim is accomplished by the promoting of original, scientific research, and the latter by publications and lectures. The affairs of the Institution are managed by a Board of Regents which cooperates with the Government and with national scientific bodies. Under the direction of the Institution are the National Museum, charged with preserving and utilizing objects of art and ethnological, geological and mineralogical collections belonging to the United States; Bureau of American Ethnology, National Gallery of Art, Freer Gallery of Art, National Zoological Park, Astrophysical Observatory, and the Regional Bureau for the United States International Catalogue of Scientific Literatures.

Secretary.—C. G. Abbot.

National Academy of Sciences.—Frank R. Lillie, President; Arthur L. Day, Vice President; Frederick E. Wright, Home Secretary; L. J. Henderson, Foreign Secretary; Ludvig Hektoen, Chairman of the National Research Council.

Pan-American Union.—L. S. Rowe, Director General.

American National Red Cross.—Norman H. Davis, Chairman.

Farm Credit Administration.—F. F. Hill, Governor.

Federal Co-ordinator of Transportation.—Joseph B. Eastman.

Federal Emergency Relief Administration.—Col. F. C. Harrington, Acting Administrator.

Works Progress Administration.—Col. F. C. Harrington, Acting Administrator.

Securities and Exchange Commission.—William O. Douglas, Chairman.

Tennessee Valley Authority.—Harcourt A. Morgan, Acting Chairman; David E. Lilienthal, James P. Pope, directors.

National Youth Administration.—Aubrey Williams, Executive Director.

Federal Deposit Insurance Corporation.—Leo T. Crowley, Chairman.

Commodity Credit Corporation.—Lynn P. Talley, President.

National Labor Relations Board.—J. Warren Madden, Chairman.

Railroad Retirement Board.—Murray W. Latimer, Chairman.

Social Security Board.—Arthur J. Altmeyer, Chairman.

The National Archives.—R. D. W. Connor, Archivist.

MEMBERS OF THE SENATE

COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1939

(Dates show beginning of service in the Senate. Names of Republicans are in Roman type; those of Democrats in *Italic;* Farmer Labor in ROMAN CAPS; Progressives in SMALL CAPS; Independent in *ITALIC CAPS.*

ALABAMA

John H. Bankhead, 2d (1931).
Lister Hill (1938).

ARIZONA

Henry F. Ashurst (1912).
Carl Hayden (1927).

ARKANSAS

H. W. Caraway (1931).
John E. Miller (1937).

CALIFORNIA

Hiram W. Johnson (1917).
Sheridan Downey (1938).

COLORADO

Alva B. Adams (1933).
Edwin C. Johnson (1936).

CONNECTICUT

Francis T. Maloney (1935).
John A. Danaher (1938).

DELAWARE

John G. Townsend, Jr. (1929).
James H. Hughes (1936).

FLORIDA

Charles O. Andrews (1936).
Claude Pepper (1936).

GEORGIA

Walter F. George (1922).
Richard B. Russell, Jr. (1933).

IDAHO

William E. Borah (1907).
D. Worth Clark (1938).

ILLINOIS

J. Hamilton Lewis (1931).
Scott W. Lucas, (1938).

INDIANA

Frederick Van Nuys (1933).
Sherman Minton (1935).

IOWA

Guy M. Gillette (1936).
Clyde L. Herring (1936).

KANSAS

Arthur Capper (1919).
Clyde M. Reed (1938).

KENTUCKY

Alben W. Barkley (1927).
M. M. Logan (1931).

LOUISIANA

John H. Overton (1933).
Allen J. Ellender (1936).

MAINE

Frederick Hale (1917).
Wallace H. White, Jr. (1931).

MARYLAND

Millard E. Tydings (1927).
George L. Radcliffe (1935).

MASSACHUSETTS

David I. Walsh (1926).
Henry Cabot Lodge, Jr. (1936).

MICHIGAN

Arthur H. Vandenberg (1928).
Prentiss M. Brown (1936).

MINNESOTA

HENRIK SHIPSTEAD (1923).
ERNEST LUNDEEN (1936).

MISSISSIPPI

Pat Harrison (1919).
Theodore G. Bilbo (1935).

MISSOURI

Bennett C. Clark (1933).
Harry S. Truman (1935).

MONTANA

Burton K. Wheeler (1923).
James E. Murray (1935).

NEBRASKA

GEORGE W. NORRIS (1913).
Edward R. Burke (1935).

NEVADA

Key Pittman (1913).
Patrick McCarran (1932).

NEW HAMPSHIRE

H. Styles Bridges (1936).
Charles W. Tobey (1938).

NEW JERSEY

William H. Smathers (1936).
W. Warren Barbour (1938).

NEW MEXICO

Carl A. Hatch (1934).
Dennis Chavez (1935).

NEW YORK

Robert F. Wagner (1927).
James M. Mead (1938).

NORTH CAROLINA

Josiah W. Bailey (1931).
Robert R. Reynolds (1932).

NORTH DAKOTA

Lynn J. Frazier (1923).
Gerald P. Nye (1925).

OHIO

Vic Donahey (1935).
Robert A. Taft (1938).

OKLAHOMA

Elmer Thomas (1927).
Josh Lee (1936).

OREGON

Charles L. McNary (1918).
Rufus C. Holman (1938).

PENNSYLVANIA

James J. Davis (1931).
Joseph F. Guffey (1935).

RHODE ISLAND

Peter G. Gerry (1935).
Theodore F. Green (1936).

SOUTH CAROLINA

Ellison D. Smith (1909).
James F. Byrnes (1931).

SOUTH DAKOTA

William J. Bulow (1931).
Chan Gurney (1938).

TENNESSEE

Kenneth McKellar (1917).
Tom Stewart (1938).

TEXAS

Morris Sheppard (1913).
Tom Connally (1929).

UTAH

William H. King (1917).
Elbert D. Thomas (1933).

VERMONT

Warren R. Austin (1931).
Ernest W. Gibson (1933).

VIRGINIA

Carter Glass (1920).
Harry F. Byrd (1933).

WASHINGTON

Homer T. Bone (1933).
Lewis B. Schwellenbach (1935).

WEST VIRGINIA

Matthew N. Neely (1931).
Rush D. Holt (1935).

WISCONSIN

ROBERT M. LA FOLLETTE, JR. (1925).
Alexander Wiley (1938).

WYOMING

Joseph C. O'Mahoney (1933).
H. H. Schwartz (1936).

MEMBERS OF THE HOUSE OF REPRESENTATIVES

COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1939

(Dates show beginning of service in the House. Names of Republicans are in Roman type; those of Democrats in *Italic;* Farmer Labor in ROMAN CAPS; Progressive in SMALL CAPS.)

ALABAMA

1. *Frank W. Boykin* (1935)
2. *George M. Grant* (1938).
3. *Henry B. Steagall* (1914).
4. *Sam Hobbs* (1935).
5. *Joe Starnes* (1935).
6. *Pete Jarman* (1936).
7. *William B. Bankhead* (1917).
8. *John J. Sparkman* (1936).
9. *Luther Patrick* (1936).

ARIZONA

At Large—*John R. Murdock* (1936).

ARKANSAS

1. *E. C. Gathings* (1938).
2. *Wilbur D. Mills* (1938).
3. *Clyde T. Ellis* (1938).
4. *Ben Cravens* (1933).
5. *David D. Terry* (1934).
6. *W. F. Norrell* (1938).
7. *Wade H. Kitchens* (1936).

CALIFORNIA

1. *Clarence F. Lea* (1917).
2. Harry L. Englebright (1926).
3. *Frank H. Buck* (1933).
4. *Frank R. Havenner* (1936).
5. Richard J. Welch (1925).
6. Albert E. Carter (1925).
7. *John H. Tolan* (1935).
8. John Z. Anderson (1938).
9. Bertrand W. Gearhart (1935).
10. *Alfred J. Elliott* (1937).
11. Carl Hinshaw (1938).
12. *H. Jerry Vorrhis* (1936).
13. *Charles Kramer* (1933).
14. *Thomas F. Ford* (1933).
15. *John M. Costello* (1935).
16. Leland M. Ford (1938).
17. *Lee E. Geyer* (1938).
18. Thomas M. Eaton (1938).
19. *Harry R. Sheppard* (1936).
20. *Ed. V. Izac* (1936).

COLORADO

1. *Lawrence Lewis* (1933).
2. *Fred Cummings* (1933)
3. *John A. Martin* (1933).
4. *Edward T. Taylor* (1909).

CONNECTICUT

At Large—B. J. Monkiewicz (1938).
1. William J. Miller (1938).
2. Thomas R. Ball (1938).
3. *James A. Shanley* (1935).
4. Albert E. Austin (1938).
5. *J. Joseph Smith* (1935).

DELAWARE

At Large—George S. Williams (1938).

FLORIDA

1. *J. Hardin Peterson* (1933).
2. *Lex Green* (1938).
3. *Millard F. Caldwell* (1933).
4. *Pat Cannon* (1938).
5. *Joe Hendricks* (1936).

GEORGIA

1. *Hugh Peterson* (1935).
2. *E. E. Cox* (1925).
3. *Stephen Pace* (1936).
4. *Emmett M. Owen* (1933).
5. *Robert Ramspeck* (1929).
6. *Carl Vinson* (1914).
7. *Malcolm C. Tarver* (1927).
8. *W. Ben Gibbs* (1938).
9. *B. Frank Whelchel* (1935).
10. *Paul Brown* (1933).

IDAHO

1. *Compton I. White* (1933).
2. Henry C. Dworshak (1938).

ILLINOIS

At Large—*John C. Martin* (1938).
T. V. Smith (1938).
1. *Arthur W. Mitchell* (1935).
2. *Raymond S. McKeough* (1935).
3. *Edward A. Kelly* (1931).
4. *Harry P. Beam* (1931).
5. *Adolph J. Sabath* (1907).
6. *Anton F. Maciejewski* (1938).
7. *Leonard W. Schuetz* (1931).
8. *Leo Kocialkowski* (1933).
9. *James McAndrews* (1935).
10. Ralph E. Church (1935).
11. Chauncey W. Reed (1935).
12. Noah M. Mason (1936).
13. Leo E. Allen (1933).
14. Anton J. Johnson (1938).
15. Robert B. Chiperfield (1938).
16. Everett M. Dirksen (1933).
17. Leslie C. Arends (1935).
18. Jessie Sumner (1938).
19. William H. Wheat (1938).
20. *James M. Barnes* (1938).
21. *Frank W. Fries* (1936).
22. *Edwin M. Schaefer* (1933).
23. *Laurence F. Arnold* (1936).
24. *Claude V. Parsons* (1930).
25. *Kent E. Keller* (1931).

INDIANA

1. *William T. Schulte* (1933).
2. Charles A. Halleck (1935).
3. Robert A. Grant (1938).
4. George W. Gillie (1938).
5. Forest A. Harness (1938).
6. Noble J. Johnson (1938).
7. Gerald W. Landis (1938).
8. *John W. Boehne, Jr.* (1933).
9. *Eugene B. Crowe* (1931).
10. Raymond S. Springer (1938).
11. *William H. Larrabee* (1931).
12. *Louis Ludlow* (1929).

IOWA

1. Thomas E. Martin (1938).
2. *William S. Jacobsen* (1936).
3. John W. Gwynne (1935).
4. H. O. Talle (1938).

5. Karl M. Le Compte (1938).
6. Cassius C. Dowell (1936).
7. Ben F. Jensen (1938).
8. Fred C. Gilchristrom (1931).
9. *Vincent F. Harrington* (1936).

KANSAS

1. W. P. Lambertson (1929).
2. U. S. Guyer (1926).
3. Thomas D. Winter (1938).
4. Edward H. Rees (1936).
5. *John M. Houston* (1935).
6. Frank Carlson (1935).
7. Clifford R. Hope (1926).

KENTUCKY

1. *Noble J. Gregory* (1936).
2. *Beverly M. Vincent* (1937).
3. *Emmet O'Neal* (1935).
4. *Edward W. Creal* (1935).
5. *Brent Spence* (1931).
6. *Virgil Chapman* (1931).
7. *Andrew J. May* (1931).
8. Joe B. Bates (1938).
9. John M. Robsion (1935).

LOUISIANA

1. *Joachim O. Fernandez* (1931).
2. *Paul H. Maloney* (1931).
3. *Robert L. Mouton* (1936).
4. *Overton Brooks* (1936).
5. *Newt V. Mills* (1936).
6. *John K. Griffith* (1936).
7. *R. L. DeRouen* (1927).
8. *A. Leonard Allen* (1936).

MAINE

1. James C. Oliver (1936).
2. Clyde H. Smith (1936).
3. Ralph O. Brewster (1935).

MARYLAND

1. *T. A. Goldsborough* (1921).
2. *Wm. P. Cole, Jr.* (1931).
3. *Thomas D'Alesandro, Jr.* (1938).
4. *Ambrose J. Kennedy* (1933).
5. Vacant.
6. *William D. Byron* (1938).

MASSACHUSETTS

1. A. T. Treadway (1913).
2. Charles R. Clason (1936).
3. *Joseph E. Casey* (1935).
4. Pehr G. Holmes (1931).
5. Edith N. Rogers (1925).
6. George J. Bates (1936).
7. *Lawrence J. Connery* (1937).
8. *Arthur D. Healey* (1933).
9. Robert Luce (1936).
10. G. H. Tinkham (1915).
11. *Thomas A. Flaherty* (1937).
12. *J. W. McCormack* (1928).
13. R. B. Wigglesworth (1928).
14. J. W. Martin Jr. (1925).
15. Charles L. Gifford (1922).

MICHIGAN

1. *Rudolph G. Tenerowicz* (1938).
2. Earl C. Michener (1935).
3. Paul W. Shafer (1936).
4. Clare E. Hoffman (1935).
5. Carl E. Mapes (1913).
6. William W. Blackney (1938).
7. Jesse P. Wolcott (1931).
8. Fred L. Crawford (1935).
9. Albert J. Engel (1935).
10. Roy O. Woodruff (1921)
11. Fred Bradley (1938).
12. *Frank E. Hook* (1935).
13. Clarence J. McLeod (1938).
14. *Louis C. Rabaut* (1935).
15. *John D. Dingell* (1933).
16. *John Lesinski* (1933).
17. George A. Dondero (1933).

MINNESOTA

1. August H. Andresen (1935).
2. *Elmer J. Ryan* (1935).
3. John G. Alexander (1938).
4. Melvin J. Mass (1935).
5. Oscar Youngdahl (1938).
6. Harold Knutson (1917).
7. H. Carl Andersen (1938).
8. William A. Pittenger (1938).
9. R. T. BUCKLER (1935).

MISSISSIPPI

1. *John E. Rankin* (1921).
2. *Wall Doxey* (1929).
3. *W. M. Whittington* (1925).
4. *A. L. Ford* (1935).
5. *Ross A. Collins* (1936).
6. *William M. Colmer* (1933).
7. *Dan R. McGehee* (1935).

MISSOURI

1. *M. A. Romjue* (1923).
2. *William J. Nelson* (1935).
3. *Richard M. Duncan* (1933).
4. *C. Jasper Bell* (1935).
5. *Joseph B. Shannon* (1931).
6. *Reuben T. Wood* (1933).
7. Dewey Short (1935).
8. *Clyde Williams* (1931).
9. *Clarence Cannon* (1923).
10. *Orville Zimmerman* (1935).
11. *Thomas C. Hennings, Jr.* (1935).
12. *C. Arthur Anderson* (1936).
13. *John J. Cochran* (1927).

MONTANA

1. J. Thorkelson (1938).
2. *James F. O'Connor* (1936).

NEBRASKA

1. George H. Heinke (1938).
2. *Charles F. McLaughlin* (1935)
3. Karl Stefan (1935).
4. Carl T. Curtis (1938).
5. *Harry B. Coffee* (1935).

NEVADA

At Large—*James G. Scrugham* (1933).

NEW HAMPSHIRE

1. Arthur B. Jenks (1936).
2. Foster Stearns (1938).

NEW JERSEY

1. C. A. Wolverton (1926).
2. Walter S. Jeffries (1938).
3. *William H. Sutphin* (1931.)
4. D. Lane Powers (1933).
5. Charles A. Eaton (1925).
6. Donald H. McLean (1933).
7. J. Parnell Thomas (1936).
8. George N. Seger (1933).
9. Frank C. Osmers, Jr. (1938).
10. F. A. Hartley, Jr. (1929).
11. Albert L. Vreeland (1938).
12. Robert W. Kean (1938).
13. *Mary T. Norton* (1925).
14. *Edward J. Hart* (1935).

NEW MEXICO

At Large—*John J. Dempsey* (1935).

NEW YORK

At Large—*Matthew J. Merritt* (1935).
Caroline O'Day (1935).

1. Leonard W. Hall (1938).
2. *W. B. Barry* (1935).
3. *Joseph L. Pfeifer* (1935).
4. *Thomas H. Cullen* (1919).
5. *Marcellus H. Evans* (1935).
6. *Andrew L. Somers* (1925).
7. *John J. Delaney* (1931).
8. *Donald L. O'Toole* (1936).
9. *Eugene J. Keogh* (1936).
10. *Emanuel Celler* (1923).
11. *James A. O'Leary* (1935).
12. *Samuel Dickstein* (1923).
13. *C. D. Sullivan* (1917).
14. *W. I. Sirovich* (1927).
15. Michael J. Kennedy (1938).
16. *James H. Fay* (1938).
17. Bruce Barton (1937).
18. *M. J. Kennedy* (1930).
19. *Sol Bloom* (1923).
20. VITO MARCANTONIO (1938).
21. *J. A. Gavagan* (1929).
22. *Edward W. Curley* (1936).
23. *Charles A. Buckley* (1935).
24. *J. M. Fitzpatrick* (1926).
25. Ralph A. Gamble (1937).
26. Hamilton Fish (1920).
27. Lewis K. Rockefeller (1937).
28. *William T. Byrne* (1936).
29. E. Harold Cluett (1936).
30. Frank Crowther (1919).
31. Wallace E. Pierce (1938).
32. Francis D. Culkin (1928).
33. Fred J. Douglas (1936).
34. Bert Lord (1935).
35. C. E. Hancock (1927).
36. John Tager (1923).
37. W. Sterling Cole (1935).
38. Joseph J. O'Brien (1938).
39. James W. Wadsworth (1933).
40. Walter G. Andrews (1931).
41. J. Francis Harter (1938).
42. *Pius L. Schwert* (1938).
43. Daniel A. Reed (1919).

NORTH CAROLINA

1. *Lindsay C. Warren* (1925).
2. *John H. Kerr* (1923).
3. *Graham A. Barden* (1935).
4. *Harold D. Cooley* (1935).
5. *Alonzo D. Folger* (1938).
6. *Carl T. Durham* (1938).
7. *J. Bayard Clark* (1929).
8. W. O. Burgin (1938).
9. *R. L. Doughton* (1911).
10. *A. L. Bulwinkle* (1931).
11. *Zebulon Weaver* (1931).

NORTH DAKOTA

At Large—Usher L. Burdick (1935).
William Lemke (1933).

OHIO

At Large—
George H. Bender (1938).
L. L. Marshall (1938).

1. Charles H. Elston (1938).
2. William E. Hess (1938).

3. Harry N. Routzohn (1938).
4. Robert F. Jones (1938).
5. Cliff Clevenger (1938).
6. *James G. Polk* (1931).
7. Clarence J. Brown (1938).
8. Frederick C. Smith (1938).
9. *John F. Hunter* (1936).
10. T. A. Jenkins (1925).
11. *Harold K. Claypool* (1936).
12. John M. Vorys (1938).
13. Dudley A. White (1936).
14. *Dow W. Harter* (1933).
15. *Robert T. Secrest* (1933).
16. James Seccombe (1938).
17. *William A. Ashbrook* (1935).
18. Earl R. Lewis (1938).
19. *Michael J. Kirwan* (1936).
20. *Martin L. Sweeney* (1931).
21. *Robert Crosser* (1923).
22. Chester C. Bolton (1938).

OKLAHOMA

At Large—*Will Rogers* (1933).
1. *Wesley E. Disney* (1931).
2. *Jack Nichols* (1935).
3. *Wilburn Cartwright* (1927).
4. *Lyle H. Boren* (1936).
5. *Mike Monroney* (1938).
6. *Jed Johnson* (1926).
7. *Sam C. Massingale* (1935).
8. *Phil Ferguson* (1935).

OREGON

1. James W. Mott (1933).
2. *Walter M. Pierce* (1933).
3. Homer D. Angell (1938).

PENNSYLVANIA

1. *Leon Sacks* (1936).
2. *James P. McGranery* (1936).
3. *Michael J. Bradley* (1936).
4. *John B. Daly* (1935).
5. Fred C. Gartner (1938).
6. Francis J. Myers (1938).
7. George P. Darrow (1938).
8. James Wolfenden (1928).
9. Charles L. Gerlach (1938).
10. J. R. Kinzer (1930).
11. *Patrick J. Boland* (1931).
12. *J. Harold Flannery* (1936).
13. Ivor D. Fenton (1938).
14. *Guy L. Moser* (1936).
15. Albert G. Rutherford (1936).
16. Robert F. Rich (1930).
17. J. William Ditter (1933).
18. Richard M. Simpson (1937).
19. John C. Kunkel (1938).
20. Benjamin Jarrett (1936).
21. *Francis E. Walter* (1933).
22. Chester H. Gross (1938).
23. James E. Van Zandt (1938).
24. *J. Buell Snyder* (1933).
25. *Charles I. Faddis* (1933).
26. Louis E. Graham (1938).
27. Harne Tiggott (1938).
28. *Robert G. Allen* (1936).
29. Robert L. Rodgers (1938).
30. Robert J. Corbett (1938).
31. John McDowell (1938).
32. *Herman P. Eberharter* (1936).
33. *Joseph A. McArdle* (1938).
34. *Matthew A. Dunn* (1933).

RHODE ISLAND

1. Charles F. Risk (1938).
2. Harry Sandager (1938).

SOUTH CAROLINA

1. *T. S. McMillan* (1925).
2. *H. P. Fulmer* (1921).
3. *Butler B. Hare* (1938).
4. *Joseph R. Bryson* (1938).
5. *James P. Richards* (1933)
6. John L. McMillan (1938).

SOUTH DAKOTA

1. Karl E. Mundt (1938).
2. Francis H. Case (1936).

TENNESSEE

1. B. Carroll Reece (1933).
2. J. Will Taylor (1919).
3. *S. D. McReynolds* (1923).
4. *Albert Gore* (1938).
5. *Joseph W. Byrns, Jr.* (1938).
6. *Clarence W. Turner* (1933).
7. *Herron Pearson* (1935).
8. *Jere Cooper* (1929).
9. *Walter Chandler* (1935).

TEXAS

1. *Wright Patman* (1929).
2. *Martin Dies* (1931).
3. *Lindley Beckworth* (1938).
4. *Sam Rayburn* (1913).
5. *H. W. Sumners* (1913).
6. *Luther A. Johnson* (1923).
7. *Nat Patton* (1935).
8. *Albert Thomas* (1936).
9. *J. J. Mansfield* (1917).
10. *Lydon B. Johnson* (1937).
11. *William R. Poage* (1936).
12. *Fritz G. Lanham* (1919).
13. Ed Gossett (1938).
14. *Richard M. Kleberg* (1931).
15. *Milton H. West* (1933).
16. *Ewing Thomason* (1938).
17. *Clyde L. Garrett* (1936).
18. *Marvin Jones* (1917).
19. *George H. Mahon* (1935).
20. *Paul J. Kilday* (1938).
21. *Charles L. South* (1935).

UTAH

1. *Abe Murdock* (1933).
2. *J. W. Robinson* (1933).

VERMONT

At Large—Charles A. Plumley (1935).

VIRGINIA

1. *Schuyler O. Bland* (1918).
2. *Colgate W. Darden, Jr.* (1938).
3. *Dave E. Satterfield, Jr.* (1937).
4. *Patrick H. Drewry* (1920).
5. *Thomas G. Burch* (1931)
6. *C. A. Woodrum* (1923).
7. *A. Willis Robertson* (1933).
8. *Howard W. Smith* (1931).
9. *John W. Flannagan, Jr.* (1931).

WASHINGTON

1. *Warren G. Magnuson* (1936).
2. *Monrad C. Wallgren* (1933).
3. *Martin F. Smith* (1933).
4. *Knute Hill* (1933).
5. *Charles H. Leavy* (1936).
6. *John M. Coffee* (1936).

WEST VIRGINIA

1. Andrew C. Schiffler (1938).
2. *Jennings Randolph* (1933).
3. *Andrew Edmiston* (1933).
4. *George W. Johnson* (1933).
5. *John Kee* (1933).
6. *Joe L. Smith* (1929).

WISCONSIN

1. Stephen Bolles (1938).
2. Charles Hawks, Jr. (1938).
3. Harry W. Griswold (1938).
4. John C. Schafer (1938).
5. Lewis D. Thill (1938).
6. Frank B. Keefe (1938).
7. Reid F. Murray (1938).
8. Joshua L. Johns (1938).
9. MERRLIN HULL (1935).
10. B. J. GEHRMANN (1935).

WYOMING

At Large— Frank O. Horton (1938).

ALASKA

Anthony J Dimond (1933).

HAWAII

Samuel W. King (1935).

PHILIPPINE ISLANDS

Joaquin M. Elizalde (1938).

PUERTO RICO

Santiago Iglesias (1933).

FEDERAL JUDICIAL ORGANIZATION

By William M. Schuyler

Editor, *The American Year Book*

SUPREME COURT OF THE UNITED STATES

Charles Evans Hughes (N.Y.), Chief Justice of the U.S., appointed 1930.

James Clark McReynolds (Kentucky), appointed 1914.

Louis Dembitz Brandeis (Kentucky), appointed 1916.

Pierce Butler (Minnesota), appointed 1925.

Harlan F. Stone (New Hampshire), appointed 1925.

Owen J. Roberts (Pennsylvania), appointed 1930.

Felix Frankfurter (Massachusetts), appointed 1939.

Hugo L. Black (Alabama), appointed 1937.

Stanley F. Reed (Kentucky), appointed 1938.

Officers of the Supreme Court:

Clerk—Charles Elmore Cropley.

Deputy Clerks.—Reginald C. Dilli, Hugh W. Barr.

Marshal.—Thomas E. Waggaman.

Reporter.—Ernest Knabel.

CIRCUIT COURT OF APPEALS OF THE UNITED STATES

First Circuit.—Mr. Justice Brandies; George Hutchins Bingham (New Hampshire), Scott Wilson (Maine), James M. Morton, Jr. (Massachusetts).

Second Circuit.—Mr. Justice Stone; Learned Hand (New York), Thomas W. Swan (Connecticut), Augustus N. Hand (New York), Harrie Brigham Chase (Vermont), Julian W. Mack (New York).

Third Circuit.—Mr. Justice Roberts; William Clark (Pennsylvania), J. Warren Davis (New Jersey), Albert Branson Maris (Pennsylvania), John Biggs, (Delaware).

Fourth Circuit.—Mr. Chief Justice Hughes; John J. Parker (North Carolina), Elliott Northcott (West Virginia), Morris A. Soper (Maryland).

Fifth Circuit.—Mr. Justice Black; Rufus E. Foster (Louisiana), Samuel H. Sibley (Georgia), Joseph C. Hutcheson, Jr. (Texas), Edwin R. Holmes (Mississippi), Leon McCord (Alabama).

Sixth Circuit.—Mr. Justice McReynolds; Elwood Hamilton (Kentucky), Xenophon Hicks (Tennessee), Julian W. Mack (New York), Charles C. Simons (Michigan), Florence E. Allen (Ohio).

Seventh Circuit.—Mr. Justice Frankfurter; Evan A. Evans (Wisconsin), William M. Sparks (Indiana), J. Earl Major (Illinois), Walter E. Treanor (Indiana).

Eighth Circuit.—Mr. Justice Butler; Kimbrough Stone (Missouri), John B. Sanborn (Minnesota), Archibald K. Gardner (South Dakota), Joseph W. Woodrough (Nebraska), Seth Thomas (Iowa).

Ninth Circuit.—Mr. Justice Reed; Curtis D. Wilbur (California), Francis A. Garrecht (Washington), William Denman (California), Clifton Mathews (Arizona), Bert Haney (Oregon), Albert Lee Stephens (California), William Healey (Idaho).

Tenth Circuit.—Mr. Justice Butler; Robert E. Lewis (Colorado), Orie L. Phillips (Colorado), Sam G. Bratton (New Mexico), Robert Lee Williams (Oklahoma).

UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

Finis James Garrett (Tennessee), Presiding Judge, appointed 1929.

Oscar E. Bland (Indiana), appointed 1923.

Charles Sherrod Hatfield (Ohio), appointed 1923.

Irvine L. Lenrott (Wisconsin), appointed 1929.

Joseph R. Jackson (Montana), appointed 1937.

UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA

D. Lawrence Groner, Chief Justice.

Harold M. Stephens.

Justin Miller.

Henry White Edgerton.

COURT OF CLAIMS OF THE UNITED STATES

Fenton Whitlock Booth (Illinois), Chief Justice, appointed 1928.

William Raymond Green (Iowa), appointed 1928.

Benjamin H. Littleton (Tennessee), appointed 1929.

Thomas S. Williams (Illinois), appointed 1929.

Richard Smith Whaley (South Carolina), appointed 1930.

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

Alfred A. Wheat, Chief Justice.

James M. Proctor.

F. Dickinson Letts.
Daniel W. O'Donoghue.
Jennings Bailey.
Peyton Gordon.
Oscar R. Luhring.
Joseph W. Cox.
Jesse C. Adkins.
Bolitho T. Laws.

UNITED STATES CUSTOMS COURT

Charles P. McClelland, Presiding Judge.
Walter H. Evans.
William J. Tilson.
Jerry B. Sullivan.
George Stewart Brown.
Frederick W. Dallinger.
Genevieve R. Cline.
David H. Kincheloe.
William J. Keefe.

UNITED STATES MARSHAL'S OFFICE

United States Marshal.—John B. Colpoys.

UNITED STATES ATTORNEYS OFFICE

United States Attorney, District of Columbia.—David A. Pine.

Assistants.—John W. Fihelly, David A. Hart, Charles B. Murray, Albert Goldstein, John J. Wilson, Harry L. Underwood, Karl Kindleberger, George E. McNeil, Cecil R. Heflin, Allen J. Krouse, William Hitz, Jr., Eugene Carusi, Arthur B. Caldwell, Arthur J. McLaughlin, John W. Jackson, Howard Boyd. John H. Mitchell William S. Tarver, Stephen P. Haycock, Grace B. Stiles.

FEDERAL PROSECUTIONS AND JUDICIAL DECISIONS

By Erwin N. Griswold

Professor, Harvard Law School

GENERAL

Apart from cases arising out of the National Labor Relations Act, the decisions of the Federal Courts attracted considerably less public attention in 1938 than during the preceding several years. The cases which arose were less spectacular in their immediate social and political import, but there were a number of decisions which will leave their impression on our legal system for many years to come. The leading cases decided by the Supreme Court during the year involving questions of general constitutional law are discussed elsewhere (see "The Supreme Court and Constitutional Law," pp. 39–55). But great constitutional questions are not the sole earmark of importance in Federal litigation. Much of the time and energy of the courts is necessarily spent in more prosaic but none the less essential tasks.

NEW RULES OF CIVIL PROCEDURE

Probably the most important event of the year so far as the Federal judicial system is concerned was the promulgation and taking effect of a new system of Rules of Civil Procedure for the District Courts of the United States. For many years thoughtful persons have contended that the rules of procedure in our courts should be made primarily by the courts themselves rather than by the legislatures. After many unsuccessful efforts, Congress was finally induced in 1934 to enact a statute authorizing the Supreme Court to prescribe the procedure of the District Courts. In exercise of this authority, the Court appointed an eminent advisory committee to prepare a draft of the rules. The committee devoted more than two years to the task. Their report was accepted by the Court with only a few changes, and on Jan. 3, 1938, the new rules were transmitted to Congress as required by the statute. Although some opposition developed in Congress, no action was taken to prevent the rules going into effect, and accordingly they became the procedural law of the Federal District Courts on Sept. 22, 1938.

The new rules have two chief effects: (1) they greatly simplify procedure, eliminating many unnecessary steps and reducing the chance that cases will be decided on technical grounds; (2) they make the procedure of the Federal Courts uniform throughout the United States instead of varying from State to State as has been the case in the past. By the end of the year the new rules had given rise to a number of decisions in the lower Federal Courts. It is inevitable, of course, that any such code shall contain ambiguities and inconsistencies which will require interpretation and adjustment. It seems reasonable to expect, however, that these preliminary difficulties will be largely taken care of in a short while, and that a procedural system will exist in our Federal Courts far more free from friction and delay. Already steps are being taken in an effort to extend the power of the Supreme Court to prescribe the procedure in criminal cases and in the appellate courts.

ERIE RAILROAD CASE

Of the decisions of the Supreme Court, the one which may have the most far reaching effect on our judicial system was *Erie Railroad Co.* v. *Tompkins,* 304 U.S. 64. The issue involved was not of a sort to excite popular imagination, but the decision rendered will have an influence in a considerable proportion of the cases hereafter brought in Federal courts. Nearly 100 years ago, the Supreme Court decided in *Swift* v. *Tyson,* 16 Peters 1 (1842), that in a large class of cases the Federal courts should reach decisions on the basis of rules of law which they themselves developed, rather than in accordance with the law of the State in which they sat. It was the hope at the time that such a rule would lead in time to greater national uniformity. Instead, the chief consequence of the decision was that the outcome of many cases turned on the wholly irrelevant point that the action was brought in a Federal rather than a state court. All of this was swept away in 1938 in the Erie Railroad decision. The Court bluntly stated that the practice which it had prescribed for 96 years had been not only wrong but unconstitutional. Hereafter the lower Federal courts are required to follow the law of the State which is applicable to the situation before them, so that the same decision should be reached as in the state courts. This result seems on the whole a desirable one; the method by which it was reached is hard to justify.

INTERGOVERNMENTAL TAX IMMUNITIES

Questions arising out of the immunities of state instrumentalities from Federal taxation continued to be presented to the courts; and the decisions of the Supreme Court considerably narrowed the sphere within which these immunities remain in effect. In *Helvering* v. *Mountain Producers Co.,* 303 U.S. 376, income derived from a lease of state school lands was held subject to Federal tax. In order to reach this result the Court was required to overrule two cases, *Gillespie* v. *Oklahoma,* 257 U.S. 501, and *Burnet* v. *Coronado Oil and Gas Co.,* 285 U.S. 393, the latter of which had been decided only five years before. In *Helvering* v. *Gerhardt,* 304 U.S. 405, the Court held that the salary of officers and employees of the Port of New York Authority were subject to Federal taxation. In reaching this result, the Court gave some indication that it might hold that all state salaries might be subjected to Federal taxation. On the same day, in *Allen* v. *Regents of the University System of Georgia,* 304 U.S. 439, the Court sustained the imposition of an admissions tax on tickets to football games at the state university.

The decisions in these cases gave considerable impetus to the movement which seeks to abolish entirely all intergovernmental tax immunities. On April 25, 1938, the President sent to Congress a message recommending the enactment of a statute which would submit Federal salaries and future bond issues to state taxation, and would subject state salaries and future state bond issues to Federal taxation. During the summer, the

Department of Justice published an elaborate study of the problem in which it concluded that such a statute would probably be constitutional. All must agree that tax immunities are undesirable in a nation which is committed to a graduated tax system. That the immunities which remain will be removed within the relatively near future seems more likely than in any time in the country's history.

JURISDICTION TO TAX

The Supreme Court continued its recent trend of decisions which finds nothing in the Fourteenth Amendment prohibiting two or more States from taxing the same interest. In *Schuylkill Trust Co.* v. *Pennsylvania,* 302 U.S. 506, Pennsylvania was allowed to impose a property tax on a share of stock in a Pennsylvania corporation although it was owned by a non-resident, and was subject to property taxation again by the State of the owner's domicile. In *Guaranty Trust Co.* v. *Virginia,* the latter State was allowed to impose a tax on income received by a Virginia resident, although the income was paid by a New York trustee who had already paid an income tax on it to the latter State. The net result of the decisions to date seems to be that the Constitution is construed to prohibit double inheritance taxation and some double property taxation, but does not prevent more than one State from taxing the same income, and in many cases the same property. Such inconsistencies can apparently be explained only on historical grounds.

CORPORATE ACCUMULATION OF SURPLUS

For many years there has been in the Federal revenue laws a section imposing a substantial tax on corporations which unreasonably accumulate their surplus. The purpose of this tax is to force the payment of dividends so that they may be subjected to surtax. For many years this section was not enforced at all, and then for a while only sporadically, due to considerable doubts which were entertained as to its validity. In *Helvering* v. *National Grocery Co.,* 304 U.S. 282, the constitutional validity of this tax was broadly sustained. It seems likely that this decision will result in a far more vigorous and consistent enforcement of the tax in question. If the decision had been obtained earlier, it might have gone far to make unnecessary the agitation for a tax on undistributed income which has caused so much controversy in the past few years.

DOUBLE DOMICILE

One of the perplexing problems in interstate taxation has been the situation which arises when a person dies and two or more States claim the tax on his estate on the ground that each was his domicile. No effective way within our present legal system has yet been devised for determining these conflicting claims of domicile. In the case of the estate of Col. Edward Green, five States claimed the tax, and the total of the claims was far in excess of the value of the property which the decedent left. For this reason, Texas started an original proceeding in the Supreme Court against Massachusetts and three other States. In early November, the Master appointed by the Court reported his conclusion that Col. Green had died domiciled in Massachusetts. This proceeding leads to the rather bizarre conclusion that the only way to protect an estate against multiple claims of inheritance taxation is to have so many States claiming that the entire estate is consumed. Then, and then only, apparently, does the Supreme Court have jurisdiction to determine the fact of domicile.

ADMINISTRATIVE LAW

A decision of the Supreme Court which attracted a considerable amount of public bitterness of feeling was *Morgan* v. *United States,* 304 U.S. 1. The case involved an order of the Secretary of Agriculture fixing the rates which might be charged by commission men at the Kansas City Stock Yards. The Court held that this order was invalid on the ground that there had not been such a full and fair hearing as the law required, particularly in that the Secretary who made the order had not himself heard the evidence, and that no proposed findings of fact or conclusions of law had been submitted to the respondents so that they might present argument against them. Following this decision, the Secretary of Agriculture published a letter in the newspapers in which he severely criticized the result reached; and the Solicitor General filed an almost unprecedentedly vigorous petition for rehearing. The Court denied the petition in a rather sharp opinion.

The case then went back to the trial court which decided that all of the money which had been collected by the commission men in excess of the Secretary's rates, but impounded by order of the Court pending a decision on the validity of those rates, should be paid over to the commission men. The Government appealed from this decision, contending that the money should not be paid over until it was ultimately decided on the merits that the rates fixed by the Secretary were not fair and proper. This appeal (the third time the case had been in the Supreme Court) was argued in the fall, and was awaiting decision at the close of the year.

LABOR RELATIONS BOARD

After the validity of the National Labor Relations Act was sustained in 1937, it was inevitable that the Labor Board should be involved in a large amount of litigation to determine the scope and extent of its powers. So far as the Supreme Court is concerned, these cases resulted almost entirely in sustaining the contentions made by the Board. It is not feasible to review all of these cases here. The significant point is that although a a considerable number of cases were passed upon by the Court, the Board was sustained in all until one case in early December; and there the decision against it was on a relatively minor point. The Court's attitude towards the powers of the Board has made it a real factor in labor relations today.

In the lower Federal courts, the Labor Board's legal career was somewhat more checkered. The Circuit Courts of Appeals reversed the Board in a number of cases. Perhaps the most notable example of this was the decision in *Fansteel Metallurgical Corp.* v. *N.L.R.B.*, 98 F. (2d) 375, where the Seventh Circuit Court held that the Board had no power to order the reinstatement of employees who had participated in a sit-down strike. This case, together with several of the other cases which had been decided against the Board in the lower courts, was pending in the Supreme Court at the end of the year.

NORRIS-LA GUARDIA ACT

Two cases involving the Norris-La Guardia Act came before the Supreme Court. The first of these was *Lauf* v. *E. G. Schinner & Co.*, 303 U.S. 323. There, a labor union sought to compel an employer to dismiss all of his employees, none of whom belonged to the union, and to employ only members of the union. The employees refused to join the union, and the union then picketed the employer's business. The Court held that, even though there was no dispute between the employer and his employees, the controversy was a "labor dispute" within the meaning of the Norris-La Guardia Act, and that the District Court was without jurisdiction to grant an injunction. A similar result was reached in *New Negro Alliance* v. *Sanitary Grocery Co.*, 303 U.S. 552. There an association of negroes picketed a store in an effort to induce the employer to employ colored clerks. This, likewise, was held to be a "labor dispute" and thus outside the jurisdiction of the District Court. The fact that the dispute grew out of racial discrimination rather than labor conditions was held not to remove it from the scope of the act.

HOLDING COMPANIES ACT

The long drawn out litigation on the validity of the holding company act finally came to a close in the decision in *Electric Bond and Share Co.* v. *S.E.C.*, 303 U.S. 419, where the Court sustained the provision of the act requiring holding companies to register. As a result of this decision, most of the important holding companies ceased to contest the enforcement of the law, and the Commission was enabled to proceed with its program for the integration of holding company systems.

BITUMINOUS COAL ACT

Early in the year the Bituminous Coal Commission promulgated an almost fantastically complicated schedule of prices for the sale of bituminous coal. These prices had been established without a hearing, and as a result, the Court of Appeals for the District of Columbia in *Saxton Coal Mining Co.* v. *National Bituminous Coal Commission,* 96 F. (2d) 517, promptly set them aside. This unanimous decision by a court which could not be said to be unduly conservative was generally regarded as a well merited rebuke to the Commission.

Later in the year, a number of other proceedings were commenced to determine the validity of the Bituminous Coal Act. One, brought by the City of Atlanta, was argued before a three-judge court late in November. In another case, coal producers sought to restrain the Commission from making public their individual cost reports which had been filed with the Commission. Their effort, however, was unsuccessful.

ROBINSON-PATMAN ACT

The effort of the Federal Trade Commission to construe and enforce the Robinson-Patman Act produced several decisions during the year. Most important was that in *Biddle Purchasing Co.* v. *F.T.C.,* 96 F. (2d) 687, where the Court upheld an order of the Commission against the receipt of brokerage commissions from sellers by a purchasing company. The Court held that the statute did not violate the Fifth Amendment when applied to this situation regardless of the effect of the transaction on trade or competition. Although the Government acquiesced in a petition for the review of this case, the Supreme Court declined to take it.

In *F.T.C.* v. *Goodyear Tire and Rubber Co.,* 304 U.S. 257, the Supreme Court concluded that the enactment of the Robinson-Patman Act did not render moot a controversy as to the validity of a prior order of the Commission against a price discrimination which was justified on the ground of the quantities sold.

In another case, an order of the Commission under the Robinson-Patman Act went to the courts during the year, but had not yet been passed on. This was the case of the *Great Atlantic & Pacific Tea Company* where the Commission determined that discounts received by the company were invalid even though they reflected only a saving in the cost of brokerage which the seller would have had to pay in a sale to other purchasers.

ANTI-TRUST LAWS

There was a considerable increase of activity in the enforcement of the anti-trust laws in the Federal courts during the year. The case against the Aluminum Company of America was brought to trial in New York, and the trial continued at intervals during much of the year. The trial of the proceeding against a large group of oil companies referred to in the article for the year 1937 came to a close early in 1938 with a jury verdict in favor of the Government.

In addition to these cases, a considerable number of proceedings were begun during the year. A civil action under the Sherman Act was filed against eight motion picture companies, 25 of their affiliates, and 133 officers and directors. The object of the suit was to compel the separation of producing companies from the ownership and operation of theatres. Another proceeding was brought against the Columbia Gas & Electric Corporation and its affiliates charging a conspiracy to restrain trade and commerce in natural gas. During the year, indictments were also obtained against the Ford, Chrysler, and General Motors companies, charging coercive and discriminative practices in automobile financing. The Ford and Chrysler companies agreed to modify their actions, but the charge against General Motors was still pending at the end of the year. Still another criminal proceeding was commenced in November against 34 corporations and 63 individuals charging a combination in restraint of trade in the milk and ice-cream industry, particularly about Chicago.

A matter which attracted considerable attention was the announcement of the Department of Justice that it contemplated proceedings against the District of Columbia and the American medical associations. These were based on the grounds that the associations and their members were illegally interfering with the operations of a group health service in Washington, D.C., which undertook to furnish medical service to its members at a fixed monthly charge. The issue of "socialized medicine" was thus said to be raised. The activity of the Department of Justice appeared to be bringing about some change in the attitude of the medical associations, which near the end of the year announced a somewhat limited insurance plan for medical care. A District of Columbia grand jury returned indictments Dec. 20, 1938 against the American Medical Association, Medical Society of the District of Columbia, Washington Academy of Surgery, Harris Co. (Tex.) Medical Society and 21 physicians of Chicago and Washington as participants in an unlawful combination and conspiracy in restraint of trade.

GOVERNMENT CORPORATIONS

The proceeding which brought to test the validity of the Tennessee Valley Authority Act was decided in January by a three-judge district court in favor of the statute. In *Tennessee Electric Power Co.* v. *T.V.A.,* 21 F. Supp. 47, the Court held that the statute did not violate the reserved powers of the States, and that private power companies could not complain of injury from public competition. The appeal from this decision was argued before the Supreme Court in November.

The question of the extent to which the Home Owners Loan Corporation is entitled to the benefits of the traditional immunity of the Government arose in a number of situations. Typical is the question whether the corporation is liable for injuries caused by defects in the repair of property which it owns. Cases on this question are still in conflict in the lower courts. In *Henderson* v. *H.O.L.C.,* a district court in Illinois held that the corporation "stands before the court in this suit as if it were the United States," and thus was entitled to immunity. The contrary result was reached by the District Court in Maine in *Pennell* v. *H.O.L.C.,* 21 F. Supp. 497, and this conclusion was adopted in a number of state court decisions.

The Supreme Court in *Kay* v. *United States,* 303 U.S. 1, sustained a conviction for receiving fees contrary to the regulations of the Corporation, but found it unnecessary to pass on the validity of the action itself.

CRIMINAL CASES

In *Townsend* v. *United States,* 95 F. (2d) 352, the Court of Appeals for the District of Columbia sustained the conviction of Dr. Francis E. Townsend, originator of the Townsend Plan (pensions), on the charge brought against him because of his refusal to testify before a committee of the House of Representatives. When the Supreme Court declined to review the decision, Dr. Townsend spectacularly flew to Washington to commence serving the jail sentence imposed. At this point the President intervened with a pardon, to the apparent relief of all concerned.

The Mooney case was brought before the Supreme Court on several occasions during the year but with the lack of success which has attended previous efforts on Mooney's behalf. The Court in October refused to review a decision of the California Supreme Court which had denied an application for habeas corpus brought pursuant to the suggestion made in *Mooney* v. *Holohan,* 294 U.S. 103. Justices Black and Reed took the unusual step of noting their dissent from this action of the Court. Later, an application for habeas corpus was filed in the Supreme Court, but this, too, was denied. The Court then refused to grant an application for a rehearing. The case ended Jan. 7, 1939 when California's new Governor, Olson, pardoned Mooney.

In *Nardone* v. *United States,* 302 U.S. 379, the Supreme Court held that the Communications Act should be construed to make evidence obtained by wire-tapping inadmissible in a criminal trial, thus reversing the conclusion which had been reached by the lower court. The messages involved in this case were interstate. In a later case involving only intrastate messages, the First Circuit Court of Appeals held that the evidence was admissible since the Communications Act was not applicable (*Valli* v. *United States,* 94 F. (2d) 687). The Supreme Court declined to review this decision. Thus the law relating to the admissibility of wire-tapping evidence is at present in an unfortunate and technical condition. It would seem that the Communications Act might well be amended to forbid wire-tapping generally, but to allow it in particular cases with the approval in advance of a responsible public official such as the Attorney General.

REGULATION OF INTERSTATE TRUCKS

An important decision on the power of States to regulate the use of their highways was reached in *South Carolina State Highway Department* v. *Barnwell Brothers,* 303 U.S. 177. The Court held that in the absence of national legislation on the subject the State might validly prohibit the use on its highways of trucks more than 90 inches in width or heavier than 20,000 pounds including load. The power of South Carolina was sustained although its effect was to exclude from its highways a considerable part of the interstate trucking which would otherwise pass through it.

CHILD LABOR AMENDMENT

The question of the validity and effect of state ratifications of the Child Labor Amendment was presented to the Supreme Court in two cases pending at the end of the year, *Coleman* v. *Miller,* from Kansas, and *Chandler* v. *Wise,* from Kentucky. The question arises because of the long pendency of the amendment, and the fact that it was rejected by a large number of the States many years ago. At the hearing before the Supreme Court, the Department of Justice filed a brief urging that the amendment was still open for ratification.

TWENTY-FIRST AMENDMENT

The Supreme Court added to the unexpected consequences of the Twenty-First Amendment by holding that state laws regulating the liquor business need not comply with the "equal protection of the laws" clause of the Fourteenth Amendment (*Mahoney* v. *Joseph Triner Corp.,* 304 U.S. 401). The States are thus largely free from any constitutional restrictions in their efforts to regulate the liquor traffic. This has led to the adoption of a considerable number of retaliatory laws. One of these was involved in *Indianapolis Brewing Co.* v. *Liquor Control Commission,* 21 F. Supp. 969. The Michigan statute there involved forbade the importation, sale, or possession of beer manufactured in ten States designated by the statute as discriminating against Michigan beer. The District Court upheld the statute, and an appeal to the Supreme Court was undecided when the year closed.

COMMUNIST PARTY

For many years the courts have held that the Communist Party advocated the overthrow of the Government of the United States by force, so that evidence of membership in it was ground for the deportation of an alien. The contrary conclusion was reached by the Fifth Circuit Court of Appeals in *Kessler* v. *Strecker,* 95 F. (2d) 976. The Government obtained a review of this decision from the Supreme Court where the case was pending at the end of the year. The case attracted considerable interest and attention because of its bearing on a pending proceeding in the Labor Department involving the deportation of Harry Bridges, a west coast labor organizer.

CIVIL LIBERTIES IN JERSEY CITY

The situation with respect to the denial of civil liberties in Jersey City under the administration of Mayor Hague continued to receive much attention. In November, a grand jury refused to find indictments sought by the Department of Justice charging violations of the Federal civil liberties law. In a civil proceeding, however, a district judge in New Jersey granted an injunction against Hague restraining him from abridging the freedom of assembly and speech and from otherwise interfering with civil liberties within the city. An appeal from this decision was taken to the Third Circuit Court of Appeals.

FEDERAL CIVIL SERVICE

By Harry B. Mitchell

President, United States Civil Service Commission

LEGISLATION

Postmasterships.—The passage by Congress in June of a bill to bring within the classified civil service positions of first, second, and third class postmaster is the high light of the past year in the advance of the merit system through legislation. These positions, totaling 14,798 in number, were subject to appointment by the President with confirmation by the Senate, and were particularly subject to patronage influences because of the fact that they were limited to a term of four years. The new law does not change the appointing and confirming power, but it does abolish the term of office and limits to three the methods by which one of these postmasterships may be filled, namely: (1) reappointment of the incumbent postmaster at the expiration of his present term of office, subject to passing a noncompetitive examination to be prescribed by the Civil Service Commission; (2) promotion of a classified postal employee likewise subject to noncompetitive examination; or (3) open competitive examination. After appointment and confirmation the appointee will be like other classified civil employees in that his tenure will depend upon his competency as a postmaster. Another abuse corrected by this law relates to the indefinite appointment of acting postmasters; hereafter an acting postmaster may be continued in the service for more than six months only with the permission of the Civil Service Commission. By the middle of November competitive examinations had been announced for postmaster at 686 of these Presidential postoffices.

Exemptions.—Although there were introduced in the special session and the last session of the Seventy-fifth Congress 60 bills (of which nine became law) providing for complete exemptions from the merit system in employments permissible under each bill, Congress passed two important bills which provided otherwise. The Fair Labor Standards Act of 1938, more popularly known as the Wage and Hour Act, exempted only the position of Administrator to be filled by the President subject to confirmation by the Senate; and the Railroad Unemployment Insurance Act included within the classified service even the position of Director of Unemployment Insurance at a salary of $10,000 a year. Open competitive examination was held by the Civil Service Commission for this position and the highest eligible was appointed. This act is unique in that, although it provides for the granting of preference in appointment to persons who have had experience in the railroad service where the applicants attain the same grades in civil service examinations, it eliminates military preference altogether in employments for the Unemployment Insurance

Division of the Railroad Retirement Board. The act creating the Civil Aeronautics Authority, however, widens the area of non-merit appointments to include positions as low in the organizational line as head of section. This act, which was approved June 23, 1938, may be so construed as to have the effect of nullifying to a considerable extent an executive order issued by the President in March bringing into the classified service many of the exempt positions in the Bureau of Air Commerce, Department of Commerce, which Bureau was transferred by the act to the Civil Aeronautics Authority.

Civil Service Administrator.—After extended debate in both the Senate and House of Representatives and passage by the Senate, the House of Representatives recommitted the bill providing for a general reorganization of the executive structure of the Federal Government. One of the major sections in the bill provided for the substitution of a single Civil Service Administrator in the place of the present nonpartisan Civil Service Commission of three members.

Relief and Social Security.—Congress eliminated a provision appearing in former relief acts which required confirmation by the Senate of appointments to minor administrative positions in the relief agencies as well as a similar provision affecting the Social Security Board; and it defeated a like proposal having application to similar positions throughout the Government Service.

EXECUTIVE ACTION

Extension of Classified Service.—The President, on March 29, 1938, issued two orders which extended the classified service to include approximately 495 positions. One order covered all but the lowest class of positions on vessels of the Lighthouse Service, and the other covered all the aeronautical engineers, pilots, mechanicians, inspectors, observers, and aeronautical experts in the Bureau of Air Commerce, with the exception only of the Director of Air Commerce, two Assistant Directors of Air Commerce, and not to exceed ten Consulting Aeronautical Experts. The act creating the Civil Aeronautics Authority transferred this Bureau to that Authority.

The reorganization bill which failed of passage by Congress contained a grant of authority to the President to bring within the civil service system a large number of positions which had been exempt from the merit system by various acts of Congress creating the agencies involved. Under an opinion of the Attorney General the President was estopped from issuing an Executive Order to bring these particular groups of positions within the classified service; but on June 24, 1938 the President signed an Executive Order which, with certain limited exceptions, will have the effect of applying the civil service system on Feb. 1, 1939 to all the excepted positions within his power to classify. The number of positions which may be affected by this order has been variously estimated up to as high a figure as 130,000; but as many of these positions are for intermittent and part-time or temporary employment the number which will actually be classified on Feb. 1 will probably not exceed 70,000 or 80,000. The number would have been much larger but for a recent opinion of the Attorney General to the effect that clerks in third and fourth class postoffices and special delivery messengers in all postoffices are not to be regarded as Federal employees but as employees of the respective postmasters.

The order further provided that only the incumbents of the positions which are to be classified who are citizens of the United States, who are recommended by the head of the establishment in which serving, and who pass appropriate noncompetitive examinations given by the Civil Service Commission can acquire a classified status after Feb. 1, 1939.

Personnel Administration.—Each of the ten Executive departments, and such of the independent agencies as were later directed by the President to do so (13 in number) are required by the order to establish not later than Feb. 1, a Division of Personnel, Supervision and Management at the head of which shall be a Director of Personnel qualified by training and experience. The order outlines the wide scope of the duties to be performed in the advancement of the best personnel administration; and it establishes a Council of Personnel Administration as a further aid in this direction.

Rules Revision.—June 24, 1938 was notable also as the date of the Executive Order promulgating the first general revision of the Civil Service Rules since 1903. The new rules among other things emphasize competitive promotion procedure; provide for more expeditious procedure in establishing registers of eligibles; give to the Civil Service Commission greater authority in investigating the removals of employees; and require that no eligible register established after Feb. 1, 1939 may be continued for more than two years unless the list is brought completely up-to-date in the manner prescribed by the rules.

GROWTH OF EXECUTIVE CIVIL SERVICE

Following the plan of last year the table below, giving statistics as to the number of competitive classified positions and the number of unclassified and exempt positions in the Executive branch of the civil service, is divided into two-year periods. During the fiscal year ended June 30, 1938 the number of classified positions increased 30,836 and the number of unclassified and exempt positions decreased 20,574. The increase in the classified service was brought about principally through natural growth of the service and through the appropriation by Congress of funds on the regular rolls of the departments and establishments in lieu of continuing relief funds for the same purposes. In September the number of Federal civil employees in the District of Columbia reached the all-time high of 118,024, exceeding by 264 the estimated number of employees in the District of Columbia at the peak of the World War period.

	June 30, 1930	June 30, 1932	June 30, 1934	June 30, 1936	June 30, 1938
Competitive classified positions	462,083	467,161	450,592	498,725	562,909
Unclassified and exempt positions	118,411	116,035	222,503	325,534	289,017
Total	580,494	583,196	673,095	824,259	851,926

CIVIL SERVICE IN THE STATES

Scope.—There are 863 governmental jurisdictions, Federal, state, and local, operating under civil service laws, not all separate civil service agencies, however. Only 169 of the 3,053 counties in the United States have civil service systems, and only 14 States; but 80 per cent of the cities having a population exceeding 100,000 are operating under a merit system.

Arkansas.—An attempt to stifle the merit system which was adopted in 1937 was defeated by action of the State Senate after passage by the lower House. The bill which was defeated provided for the transfer of funds of the State Civil Service Commission to a tuberculosis sanitarium building fund. The Arkansas State Civil Service system was upheld in two court decisions during the past year. One decision covered the rights of a civil service employee against arbitrary removal, and the other held that county welfare directors are state employees and as such are subject to the provisions of the civil service act.

California.—The City Council of Beverly Hills and of Alameda established civil service systems for city employees. The voters of Hermosa Beach, Huntington Park, and Taft adopted civil service systems in their communities, whereas similar proposals were defeated in Monterey Park and Piedmont.

Florida. — At Miami Beach the voters adopted a civil service system for employees in all municipal departments. A State Employment Service in cooperation with the United States Employment Service was established on a merit system examination basis for state employments.

Georgia.—At the last session of the legislature the Senate passed a civil service bill establishing a state merit system but the bill did not pass the lower House.

Kentucky. — Efforts to defeat through legal action the civil service system adopted by the City of Louisville were without success, and the State Legislature passed two acts enabling cities of the second and third class to establish civil service commissions.

Montana.—Although this State has no formal civil service system it established a merit system for its Department of Public Welfare.

New Jersey.—The State Civil Service Commission administers the civil service system for all the local governments which, by referendum, vote to bring their employees within its jurisdiction. The statute providing for this procedure was passed in 1908, and there are now 10 counties, one special district, and 23 municipalities operating under the system. Such a system permits the maintenance by the State Commission of a trained staff to render technical service without becoming embroiled in local factional disputes. It makes it possible for a small public subdivision to secure expert services without incurring a high overhead expense which would be involved in maintaining a separate civil service body.

New York.—A ruling by the Supreme Court of New York unanimously affirmed by the Appellate Division, invalidated the special employment of former Mayor James J. Walker on the principle that no appointment in the civil service becomes legally effective until after the Civil Service Commission has authorized and approved such appointment. The Commission had not approved Mr. Walker's appointment. In connection with an examination for junior examiner the New York Municipal Civil Service Commission designated as a passing mark for the examination the "score received by the persons who ranked fiftieth in the order of comparative merit," thus automatically limiting the eligible list to 50 persons. This was for the purpose of eliminating long eligible lists.

Governor Lehman signed a bill which prohibited the fixing of maximum age limits in civil service examinations generally, stating that the bill "allows the civil service commissions to retain the power to adopt reasonable minimum and maximum age requirements for positions such as policemen, firemen, prison guards, or other positions which require extraordinary physical effort." The Governor vetoed a second bill which would have limited the state and municipal civil service commissions in setting up educational requirements for entrance into public employment. Defeat was the fate of two amendments to the State Constitution proposed at the New York State Constitutional Convention. One would have granted absolute veterans preference, and the other would have required two years' residence in the State in order to be eligible for state employment.

North Dakota. — The voters of Grand Forks and Minot adopted ordinances placing most of their positions under civil service systems. A proposed state civil service system was defeated by the voters in June. It was regarded by civil service advocates as inadequate and defectively drawn.

Ohio.—At Akron the voters extended the municipal civil service system; at Cleveland they rejected an amendment to the state charter which would have extended the civil service system to all but policy-making positions and would have established a pension system for municipal employees.

Oklahoma.—The Federal Social Security Board stopped grants to Oklahoma for public assistance due to illegal payments and other irregularities brought about by bad administration. Lack of a merit system in the State was given as one of the principal causes for these administrative irregularities.

South Dakota.—The voters at Sioux Falls adopted a merit system ordinance.

Wisconsin.—Under authority of a bill passed in the 1937 session of the legislature loans may be granted to selected students at Wisconsin educational institutions in return for two years of apprenticeship service at the conclusion of their college work in administrative offices of the state or local governments. The State Bureau of Personnel is availing itself of this authority.

CHRONOLOGY OF THE NATIONAL GOVERNMENT AFTER ADJOURNMENT OF CONGRESS

(FROM *The New York Times*, JANUARY 2, 1939)

THE PRESIDENT

June 18—Attended his son John's wedding to Miss Clark as thousands gathered at church at Nahant, Mass.

June 23—Left Hyde Park for Washington.

June 24—In another fireside chat rebuked Mayor Frank Hague, labor and business; planned primary role for "liberal" candidates; approved plans to speed warship construction, but did not order super-battleships.

June 27—At Delaware celebration hailed Sweden's friendship; reached Hyde Park too late for regatta after braving rainy day of travel.

June 28—Studied taxes to liquidate relief debt; ruled out rearmament as a recovery factor.

June 29—Signed bill creating Olympic National Park in Washington State; also signed the Flood Control Bill.

June 30—Warned that all nations must help keep peace, as he laid cornerstone for New York World's Fair; visited Crown Prince Gustaf Adolf of Sweden for half an hour at New York Medical Center.

July 1—On hilltop site at Hyde Park conjured his dream cottage for newspaper correspondents.

July 2—Gave a hot-dog picnic at Hyde Park for Crown Princess Louise of Sweden.

July 3—Dedicated monument at Gettysburg, saying we were near victory in another conflict.

July 4—Spent the holiday at work at his desk in White House.

July 5—Called the South the nation's "Number 1 economic problem" and asked for data in move for solution; decided to push government reorganization at next session of Congress despite previous defeat.

July 7—Left Washington for his Western tour.

July 8—Endorsed Senators Barkley and Bulkley in speeches in Kentucky and Ohio.

July 9—Called on voters of Oklahoma and Arkansas to elect liberals for "liberal America."

July 10—Assailed low wages as bane in Texas radio talk; rested at home of his son Elliott.

July 12—Was formally petitioned by Colorado steel workers to seek third term.

July 13—Failed to mention rivals in the Nevada Senatorial primary, in train speech.

July 14—In San Francisco speech offered to join a world disarmament movement.

July 15—Ohio labor chiefs urged support of the President as a candidate in 1940.

July 16—Endorsed Senator McAdoo in Los Angeles talk; motored to San Diego to start cruise.

July 17—Welcomed to Mexican waters by representatives of President Lazaro Cardenas, who visited the President's naval cruiser at sea.

July 27—Sent supplies ashore from the *Houston* to few inhabitants of Charles Island in the Galapagos.

July 28—Father Divine group paid $40.000 for "Krum Elbow" estate facing Hyde Park across the Hudson.

Aug. 4—Reached Balboa in the Canal Zone; received Panama's President and reporters on his cruiser.

Aug. 5—Inspected Panama Canal Zone defenses and highway in Panama with President Arosemena.

Aug. 6—Praised Canal Zone official for "fine understanding of vital importance" of the canal as a link.

Aug. 7—Attended service aboard cruiser *Houston;* received good wishes of Colombian officials.

Aug. 10—Landed at Pensacola and revealed that he would resume "purge"; backed bans on Senators George and Smith; openly endorsed Lawrence Camp for the Georgia Senatorship over Senator George.

Aug. 11—At Barnesville, Ga., called for the defeat of George and election of Camp; the *Atlanta Constitution* asserted the President sought to "pack" Senate with "yes men."

Aug. 12—Returned to Washington and started political guessing as to who would be next in the party "purge."

Aug. 13—Representative O'Connor of New York and Senator Tydings added to the President's "purge" list.

Aug. 15—Promised expansion of the Social Security Act; praised Representative Lewis of Maryland.

Aug. 17—Left for Canada to dedicate international bridge over Thousand Islands.

Aug. 18—Assured Canada in Kingston address of our help if attacked; urged speed on seaway treaty; speech regarded by some as giving Canada Monroe Doctrine status as American nation.

Aug. 19—He held that pledge of war aid to Canada did not expand the Monroe Doctrine.

Aug. 23—Attacked voting by Republicans in Democratic primaries as violating political morality.

Aug. 27—He told his "home club" he was confident that Father Divine's flock would be good neighbors.

Aug. 29—Ended stay at Hyde Park.

Aug. 30—Back at his Washington desk after two weeks' absence; turned his attention to Maryland Senatorial contest.

Sept. 1—Designated a committee, headed by Acting Secretary of War Johnson, to report within sixty days a plan to bring country's electric power distribution system to greater efficiency as vital part of national defense program.

Sept. 2—Declared at a press conference that he favored a liberal Republican to a conservative Democrat; decided to remain close to Washington as long as European situation was acute.

Sept. 4—Advocated construction of a Potomac River bridge as he started his Maryland tour.

Sept. 6—In letter to publisher of *The Brooklyn Eagle,* saw "vital need for strong, fearless and free press."

Sept. 10—Concentrated on the European crisis as he sped to the bedside of his son James, at Rochester, Minn.; defended the right of relief workers to vote; criticized the poll tax as an outmoded instrument for restricting the franchise.

Sept. 11—James Roosevelt was operated on soon after the President reached the hospital at Rochester.

Sept. 14—Left Rochester and sped back to Washington because of the Czech crisis.

Sept. 15—Arrived at Washington and immediately conferred with Hull on European situation.

Sept. 16—Sounded out his Cabinet on the European crisis.

Sept. 17—Likened the first foes of the Constitution to "professional fear-mongers of 1938."

Sept. 19—Held parleys on the European situation; American policy of aloofness from European affairs was unchanged.

Sept. 20—Declared that he would take no part in the election contests between parties.

Sept. 23—Named Preston Delano to succeed O'Connor as Controller of the Currency.

Sept. 24—Workers' Alliance voted to support the President for third term.

Sept. 25—Appealed to European nations to continue negotiations for peaceful settlement of European crisis.

Sept. 27—Urged Hitler again to keep negotiations open for an accord.

Oct. 1—Left for Hyde Park to remain a week.

Oct. 4—Discouraged any speculation on his attitude toward an arms parley; sent a message to the A. F. of L. urging labor unity; authorized $11,000,000 fund for immediate start on New England flood control.

Oct. 7—Planned a drive against spies, declaring that espionage had increased greatly.

Oct. 9—Returned to Washington.

Oct. 11—Was urged to appeal to Great Britain to carry out her Palestine pledge to the Jews.

Oct. 12—Ecuador asked him to join with four Latin-American Presidents in mediating her border dispute.

Oct. 14—Opened campaign for mobilization of human needs, saying private agencies were essential for relief.

Oct. 17—Replied to plea of Eucador's President, promising mediation in her dispute with Peru; sent message to Eucharistic Congress urging "Sermon on the Mount" as basis of world peace.

Oct. 21—Viewing the Wages and Hours Law as a success, he hoped for a voluntary spread of its standards; wrote to Mayor of Hartford that the United States was watching events in Palestine.

Oct. 23—Approved the Northern Great Plains Committee's program for drought-stricken States.

Oct. 25—Assailed the Dies Investigating Committee, characterizing as false the charges it heard against Governor Murphy; said he was centering his time on study of defense problems.

Oct. 30—Endorsed Governor Earle of Pennsylvania for Senate, in letter rebuking Republicans for "misusing" his (Roosevelt's) name in the campaign.

Nov. 4—Linking Tories, Reds and Fascists as foes, he urged the election of Lehman, Wagner, Mead and Murphy; ordered a wide survey of Federal plants available for war activities.

Nov. 7—Sent a good-will greeting to the Soviet Government.

Nov. 11—Held that a coalition threat to "liberal" government was dim; conferred with Col. Batista, Cuban Army chief.

Nov. 14—At a budget conference, pondered a shift in WPA jobs to national defense projects; urged labor peace upon C.I.O. convention.

Nov. 15—Proclaimed Western solidarity in defense as the basis of our national defense program; condemned the Nazis for their anti-Jewish outbreak, declaring he "could scarcely believe it."

Nov. 16—White House said the President's rebuke of the Nazis applied to persecution of Catholics as well as Jews.

Nov. 17—Premier King of Canada visited the President, praising his pledge to defend all the Americas; President considered aid to German Jews, but found quotas limited United States to financial aid.

Nov. 18—Named an advisory board to study governmental spending.

Nov. 19—Asked prayers for the "unfortunate" in other lands.

Nov. 20—At a National Press Club dinner he praised newspaper men as fair to him and for helping him; left Washington for Warm Springs, Ga., with many matters up for study during a two-week rest.

Nov. 21—In Tennessee talk he said that the TVA set an example for "equal progress" in other sections.

Nov. 22—Halted PWA aid to Georgia for State's failure to work with the Federal Government.

Nov. 23—Gratified at report that Palestine would open the door to more refugees.

Nov. 24—At Thanksgiving Day dinner at Warm Springs he read a message from Eddie Cantor expressing thanks that the President carved a turkey and not a map.

Nov. 27—Conferred at Warm Springs with Wilson and Phillips, Ambassadors to Germany and Italy, on foreign issues.

Nov. 29—Awaited the course of Nazi

policy to guide United States future relations with the Reich; named Dr. McIntire, White House physician, the Surgeon General of the Navy.

Dec. 2—Reported to be seeking high Federal post for Governor Murphy of Michigan; eased the ban on Georgia PWA aid on receiving word that State officials would meet PWA demands.

Dec. 6—Advocated pay-as-you-go plan for national defense.

Dec. 9—Disclosed plans for a big drive on spies; revealed that he would send special message to Congress requesting adoption of reorganization plan.

Dec. 10—Announced that he would place his personal papers in an archives building at Hyde Park and leave papers to Government; declared freedom of the press essential to the United States.

Dec. 14—Visited by Sir George Paish, here to urge calling of world economic parley.

Dec. 16—Conferred with Ambassador Kennedy, who declared there was a possibility of a European war within a few months.

Dec. 17—Held long parley with Vice President Garner, with party harmony for 1940 believed the main topic; attended Gridiron Club dinner.

Dec. 19—Commended Harvard scholarship plan for refugee students, urging other universities to adopt it.

Dec. 21—Advisers said that the President would leave drafting of new laws to Congress itself.

Dec. 23—The Reich press turned its fire against President Roosevelt on hearing that the 1938 American Hebrew Medal had been awarded to him for outstanding service in promoting a better understanding betweeen Christians and Jews.

Dec. 24—The President, in a Christmas Eve address at a tree-lighting ceremony at Washington, renewed his promise to make every endeavor for peace.

THE VICE PRESIDENT

June 18—Returned to his home at Uvalde, Texas, and plopped into a chair under the live oak trees in his front yard.

July 4—Revealed that he had told friends before leaving Washington on adjournment of Congress that he would not seek third term as Vice President.

July 11—Sent a telegram to President Roosevelt, then at Amarillo, Texas, welcoming him to the "best State in the Union" and regretting he could not greet the President "in the flesh," first, because "it is too far to walk" and, second, because "I am now working for a living."

July 30—Democrats of Garner's county endorsed him for Presidency in 1940.

Aug. 10—Senator Burke picked Garner as his candidate for President in 1940.

Sept. 14—Texas Democratic State Convention endorsed Garner for 1940 Presidential nomination.

Sept. 17—Formation of National Democratic Education Club to boom Garner for Presidency in 1940 announced at Oklahoma City.

Dec. 3—Close friend at Washington declared that Garner would lend no encouragement to any efforts at coalition in Congress against the Administration but would rely on Democrats to "carry the ball." Friends added that Garner had no candidate for 1940; that he would accept if nominated, but put party and voters first.

Dec. 6—Acclaimed for 1940 at rally of Texas neighbors; speakers at rally lauded his "liberalism."

Dec. 17—President Roosevelt and Vice President Garner conferred for three and a half hours at the White House on subjects that neither would divulge.

Dec. 19—Colleagues of the Vice President represented him as opposed to overriding the precedent which limited Presidents to two terms.

Dec. 21—Attended the President's final Cabinet meeting before the Christmas holidays.

CABINET

Nov. 11—Reports of Cabinet changes current in Washington; Robert H.

Jackson was reported slated to replace Attorney General Cummings and Harry L. Hopkins to succeed Secretary of Commerce Roper.

Nov. 15—President Roosevelt said that Cummings would leave the Cabinet to resume law practice; a New Deal clash was rumored.

Nov. 16—Postmaster General Farley soon to resign, Washington heard; Secretary Roper denied that he would quit.

Dec. 15—Roper resigned to re-enter private life; Ickes decided not to run for Chicago Mayor, holding he could serve New Deal in the Cabinet.

Dec. 22—Resignation of Roper became effective.

Dec. 23—Harry L. Hopkins appointed Secretary of Commerce.

CONGRESS

June 16—Seventy-fifth Congress adjourned and members hurried home to election campaigns.

June 17—Senator Copeland died at 69 after circulatory collapse, overwork a factor; Representative Gasque of South Carolina died.

June 27—Representative Snell, House minority leader, retired after twenty-four years' service in Congress.

Aug. 4—Senator Burke renewed his fight to limit Presidents to a single term of six years.

Sept. 12—Representative Bacon died on his way home from a New York City speaking engagement.

Oct. 5—Representative Boylan of New York died after sixteen years' service.

Oct. 15—Senator Wheeler predicted a majority of the Senate would vote "independently" on Administration measures in the 76th Congress; Chamber of Commerce of United States predicted a more independent Congress.

Dec. 14—Senator Barkley, Democratic floor leader, following a talk with the President, hinted that the new Congress would concentrate on amending laws.

Dec. 19—Representative Gambrill of Maryland died in Washington of heart attack.

JUDICIARY

June 29—Seven railroads asked the Supreme Court to review the I.C.C. ban on warehouse leasing below cost.

July 9—Justice Cardozo died at 68 in Judge Lehman's Port Chester home.

July 13—Senator Vandenberg urged a special Senate session to pass on the appointment of a successor to Justice Cardozo before the Supreme Court convened in October.

Aug. 3—Justice Butler of the Supreme Court denied stay against Secretary Wallace in Kansas City stockyard case.

Oct. 3—Supreme Court opened its Fall term with tribute, through Chief Justice Hughes, to Justice Cardozo; postponed TVA arguments to let John Lord O'Brian campaign against Senator Wagner.

Oct. 7—Federal Government and Wisconsin joined fight by Kansas and Kentucky in Supreme Court to uphold their votes ratifying the Child Labor Amendment.

Oct. 10—Supreme Court granted reviews in labor cases, one to Ford and two to NLRB; the court also barred a review for Mooney, Black and Reed dissenting; also refused a rehearing of Port of New York Authority tax case.

Oct. 11—A. F. of L. filed a brief in the Supreme Court, in the Consolidated Edison case, assailing NLRB practices.

Oct. 14—Consolidated Edison lawyer told the Supreme Court that Washington could regulate every utility if NLRB won the case.

Oct. 17—Supreme Court granted review of case involving right of the Federal Government to deport an alien Communist; Treasury lost its bootleg case in the Supreme Court.

Nov. 2—C. I. O. shoe workers asked Supreme Court to void Maine law by which strikers were convicted.

Nov. 7—Justice Black criticized seven colleagues on Supreme Court for returning the Florida fruit label case.

Nov. 14—Mooney lost again as the Supreme Court refused to review the California decision in his case;

the court also barred exclusive right to the term "shredded wheat," declaring the term generic; TVA powers were challenged by fifteen companies in a test appeal.

Nov. 16—Washington heard rumors that Justice Brandeis would resign.

Nov. 21—Supreme Court granted NLRB a review of a decision upholding Fansteel dismissals.

Dec. 5—Supreme Court voided NLRB ban on Consolidated Edison pacts with A. F. of L. union; upheld jurisdiction.

Dec. 12—Right of Negro equal legal training in Missouri State schools upheld by the Supreme Court.

Dec. 19—Federal employes income-tax issue accepted by the Supreme Court for review on New York's appeal; the court set Jan. 3, 1939, for arguments on Bituminous Coal Board's disclosing producers' data, and Feb. 6, 1939, for hearing the rate-fixing case of the Pennsylvania Public Utility Commission.

MONETARY

June 25—Federal agencies liberalized regulations on banking to spur the flow of credit.

July 29—Morgenthau lauded the Three-Power monetary pact and assured French Ministers that it would continue.

Aug. 4—FDIC warned banks against taking excessive risks in making loans.

Aug. 6—Federal Reserve System, in a new study, showed that banks derived less than 50 per cent of their earnings from interest.

Dec. 21—FDIC reported that insurance liability, under the $5,000 maximum limit for a depositor, had reached $21,705,000,000.

Dec. 22—Morgenthau favored the continuance of the stabilization fund; silent on dollar devaluation.

BUDGETARY

June 30—The Treasury deficit for the fiscal year ended June 30, 1938, was $1,459,248,100.

July 12—A deficit of nearly $4,000,000,000 was estimated by the President for the fiscal year 1939, in a revision of the budget outlook.

Sept. 7—The Treasury called for $700,000,000 of "new money" on Sept. 15.

Sept. 8—The Treasury's cash offering of bonds and notes was oversubscribed within a single day.

Sept. 13—The Treasury allotted $803,751,400 of bonds and notes on its original offering of $700,000,000.

Oct. 3—The Federal deficit for the first quarter of the fiscal year 1939 rose to $700,983,353; the public debt rose to $38,392,725,250.

Nov. 30—The Treasury planned to raise $700,000,000 of "new money" in financing to meet the current deficit.

Dec. 9—The Treasury announced that its offering of new bonds and notes had been oversubscribed fourteen and twelve times, respectively.

Dec. 10—Senator Byrd demanded an end of "fiscal insanity."

Dec. 11—The sale of government baby bonds, since the first issue in March, 1935, reached a total of $2,013,114,000.

Dec. 25—Marriner S. Eccles, in a sharp letter to Senator Byrd, denied New Deal waste.

DIES INQUIRY

Aug. 12—Witnesses before the Dies Committee to investigate un-American activities asserted that Nazi activities aimed at sabotage in United States.

Aug. 13—John P. Frey, vice president of the A. F. of L., submitted a list of 280 alleged Communists holding key positions in the C. I. O.

Aug. 14—Dies Committee investigator said Labor Department official guided and protected Harry Bridges.

Aug. 23—Representative Dies asked President Roosevelt to assign inquiry aides from Federal bureaus; charged that Thurman Arnold barred use of FBI agents.

Aug. 26—Dies challenged C. I. O. to meet charges many of its organizers were Communists.

Sept. 8—President Roosevelt failed to answer a request by Dies Committee for help in its investigation.

Sept. 15—Witness testified Communists had a grip of 40 per cent of writers in WPA project.

Sept. 17—Victor F. Ridder told Dies Committee Communists controlled Workers Alliance in relief agitations.

Oct. 4—Dies Committee witness charged Italian consuls aided Fascist drive in United States.

Oct. 5—Dies witness asserted that German-American Bund sought to unite all Fascists in America.

Oct. 6—Magazine editor testified the German secret police set up unit for Nazi propaganda here.

Oct. 11—Dies Committee investigator at Detroit said Reds started sit-down strikes in Michigan.

Oct. 17—Dies witness linked Governor Benson with Communist activity in Minnesota Farmer-Labor party.

Oct. 18—Dies witness charged Stalin ordered campaign to destroy A. F. of L.

Oct. 21—Governor Murphy of Michigan accused of "treasonable attitude" as Dies witness assailed him on Flint sit-down.

Oct. 22—Dies Committee was told that Governor Murphy refused to act in wild "labor holiday."

Oct. 24—Dies Committee heard Legion member accuse Secretary Perkins of "subterfuge" to "protect" Bridges.

Oct. 31—Dies, in broadcast, charged curb by the Administration in denial of assistance to his committee.

Nov. 15—Two of Dies inquiry group asked an investigation whether Communists inspired La Follette inquiry.

Nov. 16—Dies Committee dropped plan to investigate Communist influence on Norris labor investigation.

Dec. 1—Homer Martin told Dies Committee that Communists bored into labor, but number was small.

Dec. 3—Dies attacked Secretaries Perkins and Ickes for "attempts" to "destroy" the work of his committee.

Dec. 5—Mrs. Ellen S. Woodward, an assistant WPA head, denied that Communists influenced WPA projects.

Dec. 7—Representative Thomas at Dies hearing said Miss Perkins must act quickly on Bridges or be impeached.

Dec. 8—A retired colonel told the Dies Committee that the Civil Liberties Union defended advocacy of revolution.

AGRICULTURE

June 22—AAA announced new authorization for purchase of surplus vegetables to stabilize market.

July 14—Loans to wheat producers averaging 59 to 60 cents a bushel announced by Secretary Wallace.

July 15—AAA set wheat acreage for 1939 at minimum permitted under the new Farm Act.

Aug. 14—Wallace worked on a plan for a subsidy to sell nation's wheat surplus abroad.

Aug. 17—Wallace announced plan to subsidize exports of 100,000,000 bushels of wheat.

Aug. 22—AAA officials gravely concerned over how farmers would cooperate in further surplus controls.

Aug. 24—Wallace, denying that farmer was in same plight as in 1932, cited increase in farm income.

Aug. 26—Government began buying wheat surplus for subsidized export and relief.

Aug. 27—Wallace, at economists' parley, urged a world farm accord assuring a fair share to all growers; AAA set loan rate for cotton and increased the rate on corn, to halt decline in farm prices.

Aug. 28—Government wheat-purchase plan injected new factor into world wheat situation and buoyed prices.

Oct. 1—Wallace's aides rejected cotton Senators' demands for more cotton aid; Senator Smith warned that this jeopardized AAA plan; Wallace in Western speech clarified policy toward agitation over modification of AAA.

Oct. 6—Wallace rebuilt Agriculture Department; drastic order followed lines of Government Reorganization Bill.

Oct. 8—Wallace, replying to appeal for new cotton subsidies, renewed plea for processing tax.

Oct. 12—Wallace set out to feed "the lower third" by dumping farm surpluses at home, not abroad.

Oct. 22—Senator Capper attacked New Deal on farm program.

Oct. 26—Wallace asserted that two-price system on surpluses was not to supplant regular program.

Nov. 4—Wallace sent expert to Europe with view to expanding sales of farm surpluses.

Nov. 10—Government set 57 cents a bushel for corn loans; put crop on Nov. 1 at 2,480,958,000 bushels.

Nov. 15—Nation's crop acreage in 1939 AAA program was reduced to 275,000,000 and benefit rates were fixed.

Nov. 18—Wallace said cotton growers faced threats which forced diversification study.

Dec. 4—Administration officials feared a drop in cotton prices if the AAA control plan were rejected.

Dec. 10—Crop referenda vote favored control of cotton, but opposed control of flue-cured tobacco and rice.

Dec. 13—Senator Bankhead outlined new cotton control program to American Farm Bureau Federation convention.

Dec. 18—Tobacco growers' rejection of crop control brought Congress predictions of revision of Farm Act.

Dec. 19—Controller General declared illegal $3,000,000 Farm Security Administration loans for silk mills in connection with homestead projects; final crop report showed lower farm output per capita for year 1938.

Dec. 24—Officials estimated that $750,000,000 would be the farm aid need for the 1940 crop; indicated that they would press for processing taxes.

NATIONAL DEFENSE

June 22—The Navy opened bids for construction of ten war vessels.

June 23—The Army sped plans to bar air attacks on all coasts, with mobile guns a factor.

June 27—President Roosevelt signed bill widening the mercantile, naval and marine corps reserve.

June 30—The United States, Britain and France agreed on a 45,000-ton limit for battleships, the pact retaining 16-inch guns on such vessels.

July 1—The War Department ordered $14,443,196 worth of fighting planes, the largest such order given in our peacetime history.

July 9—The Army prepared to start its $10,000,000 program of "educating" industry in munitions making; Commander Rosendahl, ordered to warship duty, was still left in line for command of the next dirigible.

July 14—The Navy's 45,000-ton battleships awaited completion of designs in 1949.

July 17—The Army delayed its proposed divisional reorganization for another year to permit further tests.

Aug. 6—It was revealed that military training in 1938 would be given to 700,000 in all classifications, a peacetime record in American history.

Sept. 1—The Navy assigned a scouting squadron of fourteen vessels to immediate duty in Atlantic coastal waters.

Sept. 2—The Army Air Headquarters was transferred for "strategical" reasons from the Atlantic Coast to Illinois.

Sept. 3—War Department announced readiness to start its program to educate industry for wartime production.

Sept. 5—The Army revised its War College and General Staff School limits to get younger men in high commands.

Sept. 10—The Navy provided air-conditioning for submarines to fit crews for longer submerged range.

Sept. 15—The Navy let contracts for one of largest orders in ordnance since the World War.

Sept. 30—Major General Moseley said that the New Deal imperiled nation; then was rebuked by Secretary Woodring for a "flagrantly disloyal" statement.

Oct. 14—The Army displayed at Fort Bragg a new 155-millimeter gun which shot a 95-pound shell for 15 miles.

Oct. 15—Bernard M. Baruch favored a special tax to strengthen the defense of the nation.

Oct. 16—The notable effectiveness of

Army anti-aircraft guns was shown in the war games at Fort Bragg.

Oct. 19—The Navy planned to build up the new Atlantic Squadron as a permanent force, with the main fleet in the Pacific.

Oct. 20—A larger naval base in Hawaii and air bases in Alaska and Puerto Rico expected to result from an official survey.

Oct. 27—Charles Edison, Assistant Secretary of Navy, urged the development of an invincible fleet.

Nov. 2—President Roosevelt authorized the construction of a $3,000,000 dirigible for the Navy; bids for three battleships opened; two officers, charging defects in warships, transferred from the Navy Inspection Board.

Nov. 12—It was reported that Republican gains in the House threatened a rougher road for the Administration's naval expansion program.

Nov. 16—The Navy had ships totaling 400,000 tons displacement under way or soon to be ordered started.

Nov. 19—It was announced that the Navy was spending $33,424,549 to prepare government yards for an immediate naval-building program; contracts were awarded for three new battleships to cost $150,000,000, exclusive of armament; Secretary Swanson called for continued expansion of the fleet.

Nov. 27—Secretary Woodring, in his annual report, said that the Panama Canal could be made "impregnable."

Dec. 1—Army specialists were ordered to gear for swift mass production of munitions; the contract for the sixth 35,000-ton battleship, the *South Dakota,* was awarded.

Dec. 3—Senator Borah, hitting the "hysterical" armaments race, said that Congress might let the people decide on any war; Assistant Secretary of War Johnson urged the country to "wake up" to the army's needs.

Dec. 5—General Blanding reported that the National Guard was approaching full war efficiency.

Dec. 11—Governor Ridley of the Canal Zone, in annual report, urged action in enlarging the Panama Canal as a defense measure.

Dec. 17—The Navy revealed that 140 warships and 600 planes would take part in 1939 manoeuvres on the East Coast.

Dec. 18—Secretary Ickes urged a law for checking the waste of mineral resources vital to national defense.

Dec. 23—Navy Department decided to make the new Atlantic Naval Squadron permanent.

LABOR

June 18—John L. Lewis renewed demand for employer "blacklist" and William Green accused him of "arrogance."

June 22—National Labor Relations Board made Harry Bridges the C. I. O. agent for all West Coast shoremen.

June 29—C. I. O. opened drive to enlist welfare workers in "white collar" unit.

July 7—Preliminary NLRB report required Ford Motor Company to reinstate 192 workers.

July 11—Green said A. F. of L. obtained the Wagner Act and now demanded changes in it.

July 13—NLRB granted hearing on appeal of Weirton Steel lawyer from expulsion by trial examiner.

July 22—Curb on employers who passed out anti-union literature was defended by members of NLRB; Secretary Perkins back from world labor parley hailed putting hour-cut move on agenda; Federal Court of Appeals upset NLRB order against Fansteel Metallurgical Corporation.

July 24—A. F. of L. charged NLRB favored C. I. O.

July 29—Ford aides were accused in report to NLRB; reinstatement of fifty workers was urged.

Aug. 1—NLRB halted its Maytag strike hearings for two days under Iowa military order.

Aug. 4—Green announced that A. F. of L. would seek to form new seamen's union.

Aug. 7—Four unions quit C. I. O. council of Harry Bridges, charging it was under Communist control.

Aug. 18—A. F. of L. counsel, on

Green's order, drafted Wagner Act changes to curb NLRB power.

Aug. 20—Green, after Hyde Park conference, reported that President Roosevelt conceded need of Wagner Act revision.

Aug. 23—President Roosevelt admitted Labor Act ambiguities, but said that "face-saving" would not mark its revision.

Aug. 24—Lewis talked with Homer Martin and his rivals in effort to restore harmony in the auto union.

Aug. 25—National Chamber of Commerce advocated Labor Act changes to remove "strong influences" against recovery.

Aug. 26—President Roosevelt appointed Donald W. Smith to full five-year term on NLRB.

Aug. 27—Green invited "disillusioned" C. I. O. unions to return to A. F. of L. under autonomy guarantee.

Aug. 29—Lewis denounced Green for attack on NLRB over course in Harlan mine case; Chairman Madden of NLRB praised Labor Board and denied charges of pro-labor bias.

Sept. 2—Green opposed the British Labor Act as a substitute for the Wagner Act.

Sept. 4—Green and Lewis, in Labor day statements, exchanged challenges in labor feud; Bridges charged that San Francisco employers timed open-shop fight to fit election campaign.

Sept. 5—Matthew Woll urged substantial change in the Wagner Act, not just a clarifying amendment; Green asked labor to join with industry in creating opportunity for work to replace relief.

Sept. 6—NLRB ordered Ford to rehire 129 in California plant held ousted for union activity.

Sept. 16—NLRB ordered Armour & Co. to dissolve Chicago group and hold an election.

Sept. 24—Roosevelt's Labor committee reported industrial peace in Sweden by use of persuasion in labor disputes.

Oct. 3—Green told A. F. L. at Houston that Lewis moved toward Communists' labor objective.

Oct. 4—Roosevelt message to A. F. of L. urged labor unity; seen as a "feeler" for mediation with C. I. O.

Oct. 6—A. F. of L. News Writers' Union certified by NLRB over American Newspaper Guild for three Boston papers; Heywood Broun in talk with Roosevelt proposed a fact-finding board to seek A. F. of L.-C. I. O. peace.

Oct. 7—Daniel Tobin, head of Teamsters Union, demanded that A. F. of L. renew peace parleys with C. I. O.

Oct. 9—A. F. of L. committee report asked sharp curtailment of NLRB powers by Congress.

Oct. 10—A. F. of L. convention put ouster of Lewis from C. I. O. leadership as price of peace.

Oct. 11—Lewis suggested a fact-finding board on labor division, with both Lewis and Green resigning; Green turned this resignation proposal aside as "misleading."

Oct. 13—Green, re-elected president of A. F. of L., appealed to C. I. O. unions to "come back home."

Oct. 19—NLRB ordered Republic Steel Corporation to rehire 5,000 who struck in its Ohio plants last year.

Oct. 20—Republic Steel asked Federal Appeals Court to review and set aside the NLRB order.

Oct. 28—Donald Richberg, at luncheon with Roosevelt, urged Wagner Act changes to make it two-sided; NLRB announced that in three years it settled cases involving 4,081,191 workers and prevented 622 strikes.

Nov. 2—Henry L. Stimson declared the Wagner Act was "bound to produce unfair results."

Nov. 5—Secretary Perkins urged 62.5 cents an hour minimum Walsh-Healey wage for the steel industry in the North.

Nov. 8—C. I. O. fought an NLRB ruling allowing a separate election by a craft union.

Nov. 12—Fansteel, answering the NLRB appeal in the Illinois case, argued that a sit-down strike was illegal; Senator Bridges planned a fight against D. W. Smith's reappointment to NLRB.

Nov. 13—NLRB ordered Inland Steel to sign with union; Lewis, in

C. I. O. report, said affiliated unions would not be sacrificed for peace; Green charged the Lewis report misrepresented facts.

Nov. 15—C. I. O. adopted "the goal of unity in the labor movement" as its objective, but insisted that peace must be obtained without compromising the principle of forming powerful industrial unions and protecting their members against dismemberment by craft unions.

Nov. 17—C. I. O. threatened to boycott Ford, charging refusal to bargain with auto union.

Nov. 24—NLRB ordered Hamilton-Brown Shoe Company to reinstate 187 men with back pay.

Nov. 30—D. W. Smith of NLRB told Massachusetts social workers that changes in Wagner Act were not necessary.

Dec. 5—NLRB ordered disbanding of three unions as company-ruled and the reinstatement of fifty workers.

Dec. 12—Republic Steel, in a Federal Appeals Court petition, fought the NLRB order to rehire 5,000 men.

Dec. 14—Francis J. Gorman was ousted from the Textile Workers Organizing Committee by Sidney Hillman for trying to divide the workers.

Dec. 17—Federal mediator ended a packing strike in New York, C. I. O. winning right as sole bargaining agency.

Dec. 19—A. F. of L. and C. I. O. asked the Social Security Board to cut off Oregon because of Anti-Labor Act.

WAGES AND HOURS

June 27—President Roosevelt signed the Wages and Hours Act.

July 15—Elmer F. Andrews appointed Administrator of Wages and Hours Act.

Aug. 19—Andrews conferred with textile groups and found them divided on range of act.

Sept. 7—Paul Sifton, former New York State jobless insurance official, named Wages-Hours Administration aide.

Oct. 4—Twelve regional areas with headquarters set up for administration of act.

Oct. 16—Regulations of child labor under Wages-Hours Act issued by Labor Department.

Oct. 20—Andrews accused some employers of shutting down plants to discredit act.

Oct. 22—Andrews issued new regulations covering wage records to be kept by employers.

Oct. 24—Wages-Hours Act took effect; ten Governors wired aid in enforcement; some plants closed.

Oct. 25—Reports to Andrews minimized reported layoffs under act.

Oct. 30—Andrews reported that average factory wages in every State exceeded $11 minimum in August.

Oct. 31—Andrews asked President Roosevelt to find additional funds to enforce act.

Nov. 1—Andrews, in letter to Elisha Hanson, held that wages-hours measure applied to newspapers.

Nov. 2—Ruling asserted that employers were not allowed to average time of workers over two weeks.

Nov. 9—Andrews reported to President Roosevelt that act cost 30,000 to 50,000 jobs.

Nov. 10—Andrews ruled out 75 per cent of 550 complaints alleging law violations.

Nov. 12—Wages-Hours administration refused to exempt telegraph messengers from 25 cents an hour minimum.

Nov. 20—Andrews warned that employes could not consent to waive provisions.

Nov. 22—Wage cuts to 25 cents minimum set by act were illegal, Andrews held.

Dec. 2—Telegraph companies appealed to Andrews against examiner's ruling on pay of messengers.

Dec. 12—Andrews prepared for test of act and set a hearing on plea for exemption of pecan industry.

Dec. 13—Andrews hinted that act might be changed to bar overtime for those highly paid.

Dec. 19—Louis E. Kirstein named heard of committee on wages minimum in the apparel industry.

HOUSING

July 1—The USHA, in a report to the President, set $204,000,000 as the total for low-cost housing in the coming year.

July 12—Nathan Straus of the USHA announced loans totaling $50,000,000 to twelve municipalities for slum-clearance projects.

Sept. 7—Thirty housing projects for 10,146 family units received loans totaling $48,279,000 from the USHA.

Sept. 20—Federal aides and building leaders conferred on plans for mass production of low-cost homes.

Dec. 8—The $800,000,000 United States Housing Authority was "happy but broke" as Mr. Straus allotted the last of his available funds.

Dec. 13—President Roosevelt extended by a billion the limit for the FHA to insure residential mortgages, with the new limit put at $3,000,000,000.

COMMUNICATIONS

July 5—The FCC announced rules regulating the broadcasting of political speeches.

Nov. 9—The FCC shake-up ended jobs of its chief examiner and aide.

Nov. 13—The FCC began its investigation of the radio industry, the main subject being alleged monopoly.

Nov. 14—David Sarnoff, at FCC hearing, urged self-rule for broadcasting to preserve the "freedom of the air."

AVIATION

July 7—President Roosevelt appointed the new Civil Aeronautics Authority, with E. J. Noble as its chairman.

July 19—The United States Air Bureau suspended Douglas Corrigan's plane license to prevent a return flight across the Atlantic.

Sept. 21—Major Gen. Oscar Westover, chief of the Army Air Corps, was killed in an air crash at Burbank, Calif.

Dec. 22—The Civil Aeronautics Authority considered the applications of four nations for trans-Atlantic air lines.

RAILROADS

June 27—The Interstate Commerce commission permitted Pullman to increase rates 5 per cent and suggested raising of subnormal charges.

July 6—The I. C. C. granted to Eastern railroads a passenger fare increase of half a cent, to 2.5 cents a mile.

July 12—The I. C. C. was asked to grant "rail parity" for Southern shippers as instrument for national good.

July 19—Governors Cross and Aiken told the I. C. C. the South did not need lower freight rates.

Aug. 2—The railroad unions rejected wage-cut proposals as conferences with railroad executives neared suspension.

Aug. 3—Railroads and Trainmen's Brotherhood put a 15 per cent pay-cut dispute to Federal mediation.

Aug. 4—The railroads asked the Federal Mediation Board to intervene in dispute over proposed pay cut.

Aug. 11—The Federal board began mediation of the rail wage dispute at separate conferences at Chicago.

Aug. 16—The I. C. C. established a minimum rate for trucking in the New England and Central States area; reorganization plan for Chicago Great Western was approved by the I. C. C.

Sept. 9—The railroads ordered a pay cut effective Oct 1; notice was tactical, subject to a stay if the President acted.

Sept. 19—President Roosevelt called railroad executives and union chiefs into a parley.

Sept. 20—President Roosevelt, at parley, asked heads of railroads and unions to unite on a broad program.

Sept. 27—The President set up a fact-finding board to inquire into the railroad strike situation.

Oct. 14—Senator Wheeler told the rail board that roads wasted $1,000,000 a day, exceeding pay cut.

Oct. 17—Final arguments made in the railroad wage case; the I. C. C. approved plan of reorganization for the Western Pacific.

Oct. 28—The railroad fact-finding board held that a wage reduction was not justified and asked the carriers to drop it.

Oct. 31—President Roosevelt conferred with leaders of railroad management and labor on averting a strike; asked railroads to drop wage reduction and their compliance with his request was indicated.

Nov. 4—The railroads abandoned the wage cut.

Nov. 16—Chairman Splawn of the I. C. C. told State utility officials that a Federal transportation department was needed; the I. C. C. ordered the Pennsylvania commission to allow an increase in freight rate on anthracite.

Nov. 17—Senator Wheeler said that rail rehabilitation was vital to the road's recovery.

Nov. 30—Rates on bituminous coal were extended by the I. C. C.; this was expected to add $19,374,421 to railroad revenue.

Dec. 23—President Roosevelt's special committee of railroad management and labor executives, in report to the President, recommended the centralization of the regulation of all forms of transportation under the Interstate Commerce Commission and a proposed new Transportation Board.

Dec. 24—Part of the plan of the President's special committee of railroad management and labor executives, including repeal of the so-called long-and-short haul clause, was opposed by Senators Wheeler and Norris.

POWER

July 6—Dr. Arthur E. Morgan sued TVA to retain his post, declaring ouster by Roosevelt illegal.

July 10—Congress committee made trip to Norris Dam as prelude to its investigation of TVA.

July 12—TVA investigators inspected $20,000,000 Hiwassee dam in South Carolina, due for completion in 1940.

July 13—TVA committee visited rural Georgia area and Chickamauga Dam.

July 15—Representative Jenkins, Ohio Republican on inquiry committee, assailed TVA as "waster" of taxpayers' money.

July 16—TVA officials defended its fertilizer program in reply to Congress committee's questions.

July 17—Dr. A. E. Morgan protested appointment of engineer for TVA investigation.

July 18—Dr. Morgan, on witness stand, said many of his TVA policies were ideas of the President.

July 19—Dr. Morgan asserted TVA wasted "millions" on programs and rates set by "guess."

July 20—Allegation that TVA was preventing experts from talking freely to Dr. Morgan caused dispute at hearing.

July 22—David E. Lilienthal defended TVA rates as more than adequate; said Dr. Morgan misrepresented their basis.

July 26—Lilienthal admitted TVA was still in red but said suits cut power sales and predicted profit.

July 28—H. A. Morgan at TVA hearing defended land purchase giving $500,000 profit to a company.

July 29—TVA's general manager denied that he proposed to Dr. Morgan that they join to control program.

Aug. 3—TVA's payments of $1,700,000 to colleges defended at hearing.

Aug. 4—Dr. Curtis, TVA engineer, admitted that one part of nitrate plant was not ready for war use.

Aug. 5—Salaries paid by TVA were criticized by Congress committee members at hearing.

Aug. 17—Senator Berry's associates in marble deals denied at inquiry any "understanding" with TVA.

Aug. 19—Lilienthal at hearing denied that political pressure was exerted against TVA as Berry claims waited.

Aug. 22—Lilienthal testified at TVA hearing that Dr. Morgan was "erratic and unreliable."

Aug. 26—TVA inquiry turned to phosphate land purchase as the Berry marble phase was ended.

Aug. 26—Dr. Morgan, testifying in Congress inquiry, cleared the TVA board of personal gain; TVA agreed in advance to permit city of Knoxville to increase power rates when insufficient.

Sept. 4—Senator Schwartz gave TVA a clean bill of health on basis of evidence received to date.

Sept. 6—Texas Power and Light

Company offered to sell its property in sixteen counties to Lower Colorado Authority; Wendell L. Willkie discussed purchase of utilities in letter to electric power board at Chattanooga.

Sept. 25—Memphis Power and Light Company rejected offer of city of Memphis to pay $13,000,000 for its electric properties.

Oct. 28—Big utility systems agree at meeting with New Deal committee to start plant expansion.

Nov. 14—TVA powers were challenged in the Supreme Court by fifteen power companies in an appeal.

Nov. 16—Dr. Morgan's offer to present his yardstick study was accepted by TVA inqury.

Nov. 17—E. L. Moreland estimated that the TVA power program would run a deficit of $10,352,000 a year.

Nov. 22—Head of Edison Institute assailed TVA yardstick, calling accounting system unfair.

Nov. 23—Willkie, assailing TVA, said he would accept any value put by SEC on power properties.

Nov. 30—TVA investigators testified they found no dishonesty in accounting worth following up.

Dec. 4—Dr. Morgan said that present power rates threatened a TVA deficit of $3,156,852 a year.

Dec. 8—TVA's power data, showing "yardstick" profit for ten-dam system, presented at TVA committee.

Dec. 12—TVA rejected Willkie's plan for arbitration as being "loaded with jokers."

Dec. 13—TVA was $1,000,000 "in the red" in last fiscal year, the chief planning engineer admitted at hearing.

Dec. 15—Leland Olds, at Congress inquiry, said that TVA rates could provide profit to utilities.

Dec. 16—TVA controller, in discussing audits, attacked general accounting office as incompetent.

Dec. 21—TVA injury was recessed, with future in doubt; Republicans said whole story had not been told.

MARITIME COMMISSION

June 16—The Maritime Commission called for bids on thirteen ships to be used on routes to South America.

June 27—Settlements on mail contract claims reached by two ship lines and the commission.

July 19—The commission prepared to open seamen schools in New York and California.

Aug. 19—The commission signed an agreement to buy 90 per cent of voting stock of Dollar Lines.

Aug. 24—The commission barred a Matson-Dollar Line compact on the Hawaiian shipping trade.

Aug. 28—C. I. O. assailed the commission, charging an attempt to "smash" unions.

Oct. 21—United States planned three big transpacific liners for new era of travel on American-flag ships.

Oct. 29—The commission undertook to speed the building of a merchant fleet that would also aid the navy's auxiliary problem.

Nov. 10—Bids for six 12,000-ton vessels opened by the commission.

Dec. 22—The two Japanese lines submitted to the commission as to rates on coffee to West Coast ports.

Dec. 23—The commission acted to revive West Coast shipbuilding; contracts were let for two freighters.

MONOPOLY

June 21—Business leaders conferred with New Dealers in an effort to clarify the aims of the O'Mahoney monopoly inquiry.

June 24—Nine experts were named to assist in the monopoly inquiry.

July 1—Monopoly inquiry committee organized with Senator O'Mahoney as chairman and mapped program.

July 3—Senator O'Mahoney indicated business would have its day in court in the monopoly inquiry.

July 6—Douglas of SEC said there would be no "witch-burning" in the monopoly inquiry, as agency heads participating in the investigation met.

July 9—Monopoly committee decided to investigate industries with price policies built on "basing-point."

July 19—Federal judge sustained conviction of seventeen of forty-six oil defendants in anti-trust case.

July 20—Eight motion picture companies, 25 affiliates and 132 officers were accused under anti-trust laws.

Aug. 23—Monopoly committee prepared subpoenas to supplement its questionnaire studies.

Sept. 14—Senator O'Mahoney pledged the monopoly committee would be "helpful, not hostile, to business."

Nov. 1—Federal grand jury indicted seventy-five persons in Chicago as promoters of milk monopoly.

Nov. 4—Columbia Gas and Electric was sued under anti-trust law, Attorney General Cummings seeking divestment of holdings.

Nov. 7—Consent decrees by Ford and Chrysler pledging financing reforms ended their anti-trust cases.

Dec. 1—Monopoly inquiry committee's hearings opened on the key of cooperation between government and business.

Dec. 2—Monopoly committee was told by Dr. Willard L. Thorp that it hunted an actual "rarity" in seeking monopoly in American business.

Dec. 3—Leon Henderson told monopoly committee that the nation's economic growth was in a temporary pause.

Dec. 5—Edsel Ford and Alfred Reeves told the monopoly committee of the automobile industry's policies as to patents.

Dec. 6—Kettering told the monopoly inquiry that the real need was new industries to care for idle men and money.

Dec. 16—Monopoly committee dug into trading patents abroad; need for protection here was admitted.

PUBLIC HEALTH

July 18—A national public health plan, costing $850,000,000 annually for ten years, was proposed at Washington conference.

July 20—It was revealed that the national public health plan would be submitted to Congress for consideration; Morris Fishbein questioned the plan.

July 31—The Department of Justice charged that medical organizations restricted activities of the Group Health Association in Washington, D.C.

Aug. 1—The American Medical Association, replying to anti-trust charge, challenged court action.

Oct. 27—The Public Health Association endorsed the New Deal's national medical care plan.

Oct. 31—The American Medical Association maintained opposition to the Federal medical health plan in a conference with officials at Washington.

Dec. 20—The American Medical Association, three units and twenty-one doctors were indicted as a "trust" in a Department of Justice test case at Washington.

PUBLIC WORKS

June 22—Secretary Ickes allotted $77,814,000 for public works as the PWA started its new recovery drive in motion.

July 8—The PWA barred loans to cities to compete with power companies if the latter would sell facilities "fairly."

July 12—The PWA allotted $50,000 to complete a survey of electric power available for wartime emergency, and $4,500,000 was granted for the Santee-Cooper power project in South Carolina.

July 13—Secretary Ickes put the power program into effect by approving grants for twenty-one municipal plants.

July 24—Mr. Ickes announced that the PWA was spending at the rate of $5,432,510 an hour and that authorizations were near the billion-dollar mark.

July 27—The RFC and PWA linked their spending policies to speed and expand the program for public works.

Aug. 13—The PWA announced that it had approved $1,009,000,000 worth of non-Federal contracts within less than forty days.

Aug. 24—The PWA reported that work was under way on 80 per cent of the new Federal projects.

Sept. 10—President Roosevelt ordered the PWA to speed two big Maryland bridge projects.

Sept. 21—The PWA granted $12,000,000 for a new $28,000,000 highway in New York City.

Nov. 20—Mr. Ickes reported the completion of PWA allotments for the year 1938.

Dec. 10—The PWA stepped up its program to aid pump-priming. Mr. Ickes said that the dirt was flying on 4,800 projects.

RELIEF

June 18—A WPA survey saw a permanent program necessary to cope with unemployment.

June 26—The WPA increased wages in thirteen Southern States on the order of President Roosevelt.

June 30—Harry L. Hopkins, WPA Administrator, punished two Kentucky workers for political activity but denied twenty other charges; Senator Walsh denounced the use of relief funds to influence votes as "gutter politics."

July 1—Hopkin's denial of general WPA activity in Kentucky stirred a reporter to rejoinder.

July 13—Purchase of WPA clothing for relief distribution was begun in New York as $11,000,000 worth of surplus stocks was offered.

July 14—Hopkins ordered $3,000,000 women's coats, expanding his program of relief buying; the WPA extended pay increases in the South to white-collar workers in eight States; 2,853,354 on the rolls.

July 21—Hopkins, adding 200,000 WPA jobs in the South, denied politics; Hamilton saw a third term move.

Aug. 4—The WPA extended its "buy-and-give" clothing program.

Aug. 5—Hopkins asserted that part-time WPA jobs for the South would aid farmers between cotton-picking seasons.

Aug. 20—Williams told Youth Congress that the aim to lift income justified New Deal spending.

Sept. 8—The WPA reported a new peak of 3,063,903 enrolled on Aug. 27 as the Social Security Board disclosed a record relief outlay of $258,748,000 during July.

Sept. 18—The WPA expanded its education program to employ 20,000 teachers and other workers from relief rolls.

Sept. 21—President Roosevelt ordered all Federal agencies to help in New England hurricane and flood disaster.

Sept. 23—The total of WPA workers reached 3,102,000 on Sept. 10, a record for the fourth consecutive week.

Sept. 25—Hopkins, in airplane, inspected havoc wrought by hurricane in Rhode Island.

Sept. 30—Hopkins moved to restore tornado damage at Charleston with $500,000 WPA fund.

Oct. 8—Williams, acting WPA Administrator, declared WPA strikes would not be tolerated.

Oct. 13—President Roosevelt told WPA to make $764,000,000 on hand last until March 1.

Oct. 23—Hopkins predicted a permanent cut in the WPA, saying that the business increase was already reducing rolls.

Dec. 8—Hopkins planned changes in WPA relief procedure, favoring a "meeting of minds" with Congress.

Dec. 21—Williams warned that the WPA would be forced to close down completely by Feb. 7, 1939, unless Congress speedily appropriated more money; Congress leaders predicted a new grant.

Dec. 23—President Roosevelt named Colonel F. C. Harrington to be the new head of the WPA, succeeding Harry L. Hopkins; Aubrey Williams, deputy administrator of WPA, was promoted to be administrator of the National Youth Administration. Colonel Harrington stated his policy would be money for the real needy and work in return for relief.

SECURITIES

June 19—Healy of SEC asserted the Holding Company Act was not a "death sentence" for utilities.

June 20—SEC, opening Eastern Utilities Investing Corporation hearing, denied that investment trust inquiry was legally dead.

June 22—SEC closed its investigation of investment trusts.

July 8—SEC required irregular agents of utilities to file reports within ten days of appearance.

July 13—SEC planned to draft several investment bankers to help in setting up new over-the-counter program.

July 22—SEC planned to segregate activties of brokers and dealers on Stock Exchange.

July 26—SEC got down to task of integrating power industry. SEC study of investment trusts showed operating expenses absorbed 20 per cent of their total income.

Aug. 1—SEC ordered investigation of listed issues of Alleghany Corporation; also ruled that Houston Natural Gas was interstate, denying Utilities Act exemption for first time.

Aug. 11—SEC tightened rules on proxies, with more protection given to the security holder.

Aug. 16—SEC joined inquiry by New York State Attorney General Bennett into out-of-State bank's methods of soliciting savings deposits.

Sept. 25—SEC declared that functions under Chandler bankruptcy act would be "purely advisory"; took first case.

Sept. 29—H. H. Egly of Dillon, Read & Cox named by SEC to head unit to organize over-the-counter dealers.

Oct. 27—SEC report on Whitney failure listed borrowing of $27,361,500 in effort to avert bankruptcy.

Oct. 29—Cooperation with SEC set as first goal by new president of Investment Bankers Association.

Oct. 30—SEC said in report that investing trusts' small stockholders had little to say in management.

Oct. 31—SEC and Stock Exchange joined in working out restrictions on brokers to protect public.

Nov. 1—SEC said that "unwritten code of silence" let Whitney go on; centered attack on T. W. Lamont.

Nov. 2—SEC notified utilities their plans to comply with holding company act would be guarded.

Nov. 25—SEC charged Transamerica Corporation with misleading statements in report.

Dec. 5—SEC ordered Associated Gas and Electric to file statement on investments and subsidiaries.

Dec. 9—SEC adopted rule requiring approval of deals among companies in the same utility system.

Dec. 13—SEC obtained warrants for two officials and agent of McKesson & Robbins; "sub-underwriting" allowed by a new SEC rule which was expected to stimulate capital market.

Dec. 14—Fidelity Investment Association, big "thrift plan" company, accused of fraud in SEC injunction suit.

Dec. 20—SEC traced deals in McKesson & Robbins stock; brokers queried on transactions; SEC issued first of series of special census reports on corporations, twelve steel companies being covered.

Dec. 21—SEC issued opinion by its chief accountant on balance sheet presentation of preferred stock.

SOCIAL SECURITY

July 30—Social Security Board reported payments totaling $180,000,000 to 2,500,000 insured jobless in six months.

Aug. 6—Governor Davey of Ohio accused the Social Security Board of asking for votes from aged Ohio pensioners.

Aug. 20—Social Security Board ordered an inquiry into the Ohio pension system based on Governor Davey's charges.

Aug. 25—Social Security Board studied the problem of a possible addition of 16,000,000 workers now excluded from the operations of the law.

Oct. 20—The Social Security Advisory Council conferred with Treasury officials on widening the benefits of the act.

Nov. 29—Senator Lodge decided to move for an increase in old-age pensions, urging a flat sum of $60 a month.

Dec. 18—The Social Security Advisory Council submitted recommendations for enlarging the scope of the benefits of the Social Security Act, for expanding the system to cover a larger proportion of the population, and for an improved method of financing the program and handling the necessary funds.

Dec. 25—Chairman Altmyer of the Social Security Board hailed the progress of the Social Security program, saying experience had provided a basis for sound changes.

TARIFF

July 3—Secretary Hull denied that the reciprocal trade pacts had brought a flood of foreign products.

July 31—Mr. Hull scored "fallacies" in "partisan" attacks "deceiving" farmers relative to the reciprocal trade pact program.

Aug. 14—Chairman Hamilton of the Republican National Committee, in a letter to Mr. Hull, alleged wide deceit in "propaganda" for foreign trade program.

Sept. 3—Mr. Hull accused Mr. Hamilton and his wing of the Republican party of false pretenses in their attacks on the reciprocal trade pacts.

Sept. 18—Mr. Hull told the International Managament Congress that America attacked trade barriers to avert military pressures.

Nov. 17—Mr. Hull signed reciprocal trade pacts with Great Britain and Canada.

Dec. 9—Mr. Hull decided to expand the trade pact drive, convinced that other nations would follow Britain's example.

Dec. 18—The trade agreement between the United States and Turkey was initialed at Angora.

TAXES

June 30—The collections of internal revenue during the fiscal year ended June 30, 1938, were the largest in history, reaching $5,658.385.125 or $1,005,189,810 more than during the fiscal year 1937.

Aug. 8—Treasury experts drafted tax revision data, expecting Congress to review the whole field of revenue.

Sept. 1—Secretary Morgenthau deferred plans for a new tax program pending the formulation of the President's budget message.

Sept. 6—The Treasury asked $2,100,000 of John J. Raskob and Pierre S. du Pont on the basis of a decision in a 1929 income tax case.

Sept. 18—A Treasury study was made public showing that $50,522,000,000 of public securities were wholly or partially tax exempt in 1937.

Nov. 12—Senator Connally predicted that there would be no general tax bill in the new session but expected a rise for the middle bracket incomes.

Nov. 15—President Roosevelt ordered that income tax records of utility companies and their executives be bared.

Dec. 8—A tax revision program, with a broadened base, was adopted by the Congress of Industry.

Dec. 15—Senator Vandenberg advocated incentive tax legislation.

Dec. 19—Chairman Harrison of the Senate Finance Committee advocated a rest from high taxes that gave the nation "high blood pressure."

PERIODICAL PUBLICATIONS

Army and Navy Journal
1701 Connecticut Ave. N.W., Washington, D.C.

Civil Service Standard
277 Broadway, New York City

Congressional Digest
2131 LeRoy Place, Washington, D.C.

Congressional Directory
U.S. Government Printing Office, Washington, D.C.

Congressional Record
U.S. Government Printing Office, Washington, D.C.

United States News
22nd. and M Streets N.W., Washington, D.C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of Political Science, Morningside Heights., New York City.

American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia, Pa.

American Political Science Assn., 305 Harris Hall, Northwestern University, Evanston, Ill.

American Bar Assn., 1140 N. Dearborn Street, Chicago, Ill.

American Political Science Association, 305 Harris Hall, Northwestern University, Evanston, Illinois.

Commercial Law League of America, 111 W. Monroe St., Chicago, Ill.

Honest Ballot Assn., Inc., 27 William Street, New York City.

Institute of Public Administration, 302 E. 35th Street, New York City.

League for Political Education, 123 West 43rd St., New York City.

National Assn. of Legal Aid Organizations, School of Law, Duke University, Durham, N.C.

National Civil Service Reform League, 521 Fifth Ave., New York City.

DIVISION IV
STATE GOVERNMENT

STATE ADMINISTRATION AND LEGISLATION

By Henry W. Toll *

The Council of State Governments

ADMINISTRATIVE AND LEGISLATIVE TRENDS

The year 1938 was an off-legislative year. Only eight States—Kentucky, Louisiana, Massachusetts, Mississippi, New Jersey, New York, Rhode Island, South Carolina, and Vermont—met in regular session. Hence, despite the 17 special sessions that were summoned for emergency purposes relatively little legislation was written into state statute books. A survey indicates that trends were in the direction of social legislation, with less emphasis on taxation, personnel administration, education and planning.

The growing demand for social legislation, as reflected in the fall campaigns, saw concrete expression in numerous laws relating to public welfare, social insurance, labor, and housing. Much of this was an offshoot of the Social Security Act and the United States Housing Act of 1937, both of which were largely intended to stimulate state action by making available the use of certain Federal funds. Social security laws were broadened, housing projects increased, and public welfare activity intensified.

Labor legislation, which has been assuming a more positive note, especially in the wake of the National Labor Relations Board activities and the final enactment by Congress of wage-hour regulation through the Fair Labor Standards Act of 1938, has been sifting into the state statute books for the last few years at an increasing rate, and continued to preoccupy the time of state legislators during 1938. Wages and hours were regulated in greater detail, compensation payments were enlarged, and administrative supervisions widened in scope. An undercurrent of reaction swept the West Coast and took shape in the form of anti-picketing laws, but only Oregon gave approval to such measures.

The sales tax for Pennsylvania was the only important addition to the tax structures although a series of minor changes were made in all the States where legislatures convened. Likewise, little action was taken toward state administrative reorganization, except for the projection of numerous surveys. Personnel administrative changes faced a slack year, and planning made little new headway although both South Carolina and Virginia created boards.

Progress in interstate cooperation continued uninterrupted. Two more States—California and Louisiana—created Commissions on Interstate Cooperation, and by virtue of this joined 35 sister States as members of The Council of State Governments. The Council, moreover, was established as a governmental agency of these States. The Interstate Commission on the Delaware River Basin adopted a reciprocal agreement on regulations to be enforced by the

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* Assisted by Thomas S. Green, Jr., Research Assistant, The Council of State Governments.

basin state public health departments. A sanitation compact for the Ohio River was drafted in final form by a Governors' special commission, and steps were taken in a series of meetings to control depletion of fish in the Great Lakes. Eastern States conferred on uniform measures for conservation, marriage, and banking regulations, while eastern and midwest regional meetings studied the problem of interstate liquor control. From these various conferences, delegates were afforded an opportunity to visualize state legislation on an interstate basis and, consequently, to be in a position to prepare new legislation with its interstate implications in view. Several of these meetings concluded with uniform agreements or plans to draw up compacts.

PUBLIC WELFARE AND SOCIAL INSURANCE

Welfare legislation for 1938 consisted primarily of measures to meet the requirements of the Social Security Act, acts relating to public assistance and unemployment compensation, and provisions to meet the financing of unemployment relief and welfare services. Virginia captured the center of attention by featuring itself as the 48th State to have approved by the Federal Social Security Board its plan for assistance to the aged, the blind, and dependent children.

Old age assistance received the attention of Mississippi, which liberalized the requirements; of Kentucky, where a $100 exemption was made from the State's lien upon the estates of such recipients; and of Massachusetts, which provided for an exemption from poll tax payments. South Carolina also amended its laws, while Rhode Island took action on this form of assistance, and, along with Mississippi, passed legislation for aid to the blind.

Twenty-one States began paying unemployment compensation benefits in January, 1938, and by the end of the year the number had increased to nearly 30. All but three of the remaining States will distribute the benefit payments at the turn of the year. Many changes occurred in these state laws. Georgia made a general revision; New York and Kentucky extended their laws to include all workers earning $3,000 a year or less, regardless of occupation; Massachusetts reduced the waiting period, and suspended employee contributions for a year; and New Jersey exempted employee payments on portions of salaries over $3,000.

Examining the sum total of state unemployment compensation systems, it is found that 41 States have now adopted the pooled fund type, three the employer reserve, three a combination of both, while one—Vermont —leaves the method to the discretion of the employer. All but six States, including Massachusetts with its temporary suspension, exempt employees from contributions.

Efforts were made to devise means of adequately financing the various welfare programs which receive only partial assistance from the Federal Government. Direct appropriations were provided for by the legislatures of California, Illinois, Mississippi, Rhode Island, and South Carolina. A variety of means were turned to by other States. Kansas created an emergency social welfare fund from the retail sales tax receipts. Massachusetts permitted cities, towns and districts to borrow for welfare purposes, while New Jersey empowered the governing body of any municipality to reopen its 1938 budget in order to add emergency relief appropriations.

The November ballots carried a host of old-age pension referenda. North Dakota raised the monthly stipends to $40 and thereby placed itself with three other States which provide a maximum of from $35 to $45. Colorado retained its much criticized constitutional amendment and Missouri reduced age eligibility from 70 to 65 in order to comply with the Federal Social Security Act. A New York constitutional amendment authorizes the specific use of state funds for relief purposes, including unemployment, sickness and old age, education, and the care of the physically handicapped and of dependent children. California voters paved the way for an integration of the State's entire welfare program, as some 30 States have done in the past few years, by abolishing its temporary relief administration and empowering lawmakers to deal with the problem anew. South Dakota decided to retain its five-man unemployment compensation commission while Arkansas citizens passed a workmen's compensation measure.

During the year the administrative requirements of the Social Security Board were more rigorously applied and led in some instances to changes in the state agencies administering various forms of relief. The competency and sufficiency of personnel in plans or amendments submitted were carefully examined, and led to the temporary withholding of Federal funds in Illinois, Ohio, and Oklahoma. All in all, it can be said that administrative reorganization of state public welfare agencies played as important a part as revisions in legislation.

LABOR *

The acute labor problems of the day were tackled by at least ten state legislatures and led to a series of acts which covered many aspects of the field. Wages, hours, and workmen's compensation were subject to the most frequent legislation, but were closely seconded by laws dealing with industrial relations, departments of labor, apprenticeships, and safety, health, and sanitation. The total volume of bills was slightly less than that of the last legislative off-year, 1936; this can be attributed primarily to the previous attainment of certain goals.

Perhaps most significant in labor developments is the amendment which is now written into the New York Constitution—the recognition of employee unions and collective bargaining, hitherto legalized by legislative acts only. An eight-hour day, a five-day week and a prevailing wage scale for all public works contracts, except in an emergency, were also accepted. Oregon voters, however, dealt a blow to organized labor by approving a statewide anti-picketing law which regulates picketing and boycotting and specifically forbids the amassing of funds beyond "legitimate requirements." California and Washington defeated initiatives whose provisions were similar to the Oregon law.

Kentucky and Louisiana each enacted minimum wage laws of the wage board type for women and minors. Louisiana also adopted an 8-hour day and 48-hour week for the same group in certain industries though this excludes the smaller towns and villages. South Carolina made effective a 40-hour law for textiles by removing a proviso that prevented enforcement until North Carolina and Georgia had taken similar action. Virginia enacted a 48-hour week for women, while New York extended its hours limitation law to beauty parlors.

Administration of the workmen's compensation law fund was removed from the Industrial Commissioner in New York and given to a board of eight commissioners appointed by the Governor from employers insured under the state fund. Virginia increased the maximum weekly rates to $16, and New Jersey raised the penalty for failure to provide compensation and made officers of the corporations personally liable. In Louisiana, certain nonresident employers must now take out a policy to insure payment of claims.

In the field of industrial relations, Virginia created a Labor Relations Commission to investigate the problem and prepare proposed legislative measures. New York extended state control and supervision of the activities of private detectives and private agencies relating to strikes and union activities. Fingerprinting and licensing are now required, and the names of all agencies must be made public. Kentucky passed two laws regulating the appointment of sheriffs, and Rhode Island prohibited the use of tear gas by private parties in labor disputes.

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* Much of this information was obtained from the Division of Labor Standards, U.S. Department of Labor.

No new labor departments were established; all but one of those States whose legislatures met regularly have already taken such action. Louisiana, however, increased the powers of the Labor Commissioner over boiler inspection, regulation of private employment agencies, apprenticeships, and minimum wages. Louisiana, Massachusetts, and Virginia set up machinery to promote apprenticeship training. In order to assist older workers, for whom the depression has rendered jobs scarce, New York and New Jersey passed legislation to hold open competitive examinations in state and municipal civil service systems. Both New York and Wisconsin extended child labor regulations.

Other important legislation is found in Louisiana where a Minimum-Wage Division has been created under the Department of Labor to establish standards of minimum wages and conditions of labor for women; in Kentucky, whose Commissioner of Industrial Relations can now request the Governor to appoint a wage board; and in Massachusetts, where the Commission on Interstate Cooperation is authorized to investigate migration of industrial establishments. An innovation is the New York insurance law which permits the creation of life insurance departments in savings banks. Annuity policies up to $1,000 may be written out.

HOUSING

Public housing developments took place along three fronts during the year, according to the National Association of Housing Officials. As the U.S. Housing Act of 1937 went into effect, new States passed the necessary enabling legislation, and other States adopted amendments to their existing laws. These various changes led to an acceleration in the creation of local housing authorities, the figure of somewhat under 50 for 1937 jumping to well over 225 at the close of 1938.

By the provisions of the new Federal act, the ownership and construction of new projects by the Federal Government terminated, and the role of lender, subsidizer and supervisor was adopted in its place. The housing projects already in the possession of the Government are to continue under its jurisdiction for the present, although they will continue to be leased and eventually be sold to local authorities. On the state level, three additional legislatures — California, Mississippi, and Virginia—passed the appropriate enabling laws for the creation of local housing authorities, swelling the ranks of state participants in the national public housing program to 33. Several other States amended their legislation, providing primarily for tax exemption as a means of local subsidy and for application of the enabling laws to more local communities within the State.

New York, by a constitutional amendment, stepped into the vanguard of state housing development by authorizing the contraction of a state debt up to $300,000,000 for loans to low-rent housing and slum clearance projects, the expansion of the debt limit of cities by two per cent, and the granting of subsidies to municipalities for public housing developments. With the exception of a few early plans to aid war veterans or other special groups, this is the first authorization of direct state financial participation in housing.

PUBLIC HEALTH

Public responsibility for public health took a long stride forward by the passage in Congress of the Venereal Disease Control Act of 1938. Although by the end of 1937, the Division of Venereal Diseases in the Public Health Service found it possible to report that, for the first time since the World War, every State had taken some action along this line, many of them are engaged in only a minimum of activity. Thirty-one employ a full-time venereal disease control officer, and 25 have one or more assistants; 27 have established special divisions under health departments, and 13 supply free drugs for treatment regardless of economic status. The Federal measure will give impetus to control programs by its appropriation of $3,000,000 for 1939, increasing to $7,000,000 in 1940, although any specific allocations of funds must be matched by the States.

The venereal disease problem is being attacked in another direction. This is through a requirement that both applicants for a marriage license submit themselves to a blood test for syphilis. The roster of States carrying such laws increased to ten during the year. New Hampshire, New Jersey, New York, and Rhode Island began to enforce the provisions of these laws, while Kentucky passed a similar measure that will go into effect in 1940, and Oregon, by constitutional amendment, extended its previous statute to women. It is anticipated that several States will consider premarital examination laws at the forthcoming legislative sessions.

A New York amendment now permits the legislature to enact health insurance laws and another inserts into a constitutional provision the right to use state funds for assistance to the sick and the physically handicapped. Georgia voters have empowered counties to levy taxes for medical care and hospitalization of the indigent sick.

TAXATION *

The year was conspicuous for the lack of adoption of new taxes or increase in rates of existing ones. In fact, the only important innovation has been the sales tax in Pennsylvania. Many measures appeared on the Nov. 8 ballots, either as initiatives or proposed constitutional amendments, but a large number were rejected by the electorates. Some States initiated administrative reorganizations of tax commissions while a few others authorized study projects for revamping features of the tax systems. The most notable of the former is the Georgia measure which has placed the administration and supervision of all tax laws under a single Revenue Commissioner in lieu of the former three-man commission. A salutary note comes from Kentucky where the legislature has instructed the courts to recognize and enforce tax statutes constitutionally imposed by other States which extend a like comity.

Besides the action taken in Pennsylvania, a sales tax has been adopted by Louisiana, supplanting the former "luxury tax" enacted in 1936. Mississippi has revised its rates on various items, and Kansas and Ohio have legislated certain exemptions. "Use" taxes on some commodities purchased out-of-state have been added to the statute books of Mississippi, South Carolina, and Ohio.

Many of the gasoline tax measures appeared in the form of proposed constitutional amendments, although the Rhode Island legislature made permanent its temporary rate increase, and Massachusetts and New York extended theirs. Seven States provided for new or increased taxation of liquor, and three took action on tobacco taxes. Income taxes, both personal and corporate, were subject to some revisions. New York continued its emergency 1 per cent tax on personal and 6 per cent on corporation incomes for the year, and Massachusetts renewed an additional levy of 10 per cent of the computed tax on both.

Among the other taxes acted upon. the property tax takes an important position. Many voters were faced with constitutional amendments on this subject, while Georgia and Kentucky legislatures passed measures for the assessment of intangibles. Homestead exemptions were granted in Georgia and increased in four other States. Exemptions to industry were both extended and restricted.

Only about one-half of the constitutional amendments and initiatives that were proposed were adopted. Arizona and California defeated homestead tax exemption measures although Florida and Louisiana broadened theirs. California refused to accept a land tax in substitution for a sales tax, and Colorado rejected a chain store license and tax repeal proposal. Only the earmarking of gasoline tax funds for road purposes generally passed where submitted to

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* The survey by Raymond E. Manning, "State Tax Legislation—1938," was used as a basis of information for this section.

vote, namely in California, New Hampshire, and Michigan.

PUBLIC PERSONNEL ADMINISTRATION

Significant because of the impetus changes in the National Government frequently give to the States, are the extensions made in the Federal civil service during the year. The President, by Executive Order, placed approximately 100,000 positions in the classified civil service and completely revised the rules of the United States Civil Service Commission. No new statewide merit systems for state employees were adopted, although interesting developments took place in several of the 14 States which had previously taken such action. Perhaps most important was the organization and expansion of the Michigan system passed in 1937. A comprehensive personnel system was installed and four main features were developed: (1) qualifying examinations given to approximately 17,000 incumbent state employees; (2) 385 open competitive examinations given and, of over 58,000 original applicants, 1,892 appointments made; (3) a new state salary plan instituted following a comprehensive survey of rates in private industry in Michigan and public employment outside, of living costs, and of the State's financial policies; (4) and an orderly procedure governing in-service changes adopted. The four other States which established Civil Service systems in 1937—Arkansas, Connecticut, Maine, and Tennessee—set in motion machinery for placing their personnel administration in effect during the year.

Governor Herbert H. Lehman of New York signed the Wadsworth bill which seeks to prevent discrimination against persons of 40 years of age in civil service employment; at the same time he vetoed a measure intended to limit state and municipal commissions in setting up educational requirements. Arkansas successfully repealed attempts to stifle its civil service system. Opponents had hoped to accomplish this by transferring appropriations of the State Personnel Division to a tuberculosis sanatorium building fund.

When examining the lower levels of government, it is found that Kentucky passed two acts enabling cities of the second and third classes to establish civil service commissions. Ohio extended the state employees' pension system to all county, municipal, public health, conservancy, and public Library employees. Four California cities adopted merit systems, although two defeated such proposals. Of 17 municipalities in one county in New Jersey which voted on civil service proposals Nov. 8, seven adopted merit systems for local employees to be administered by the State Civil Service Commission. Cleveland made a wide extension of the numbers affected by amending its charter to place unskilled laborers under civil service provisions. The only major defeat for the movement came from an initiative vote in North Dakota, which failed to adopt a state civil service system.

During 1938, perhaps the most significant progress was made in merit system administration in the state agencies administering functions under the Federal-State unemployment compensation and public assistance programs established by the Social Security Act. Many States availed themselves of the assistance offered by the Social Security Board in the development of personnel rules and regulations, classification plans, and examination procedures.

In the unemployment compensation field, 11 state agencies now appoint personnel through the machinery of the state civil service system. Personnel rules and regulations, establishing a merit system for the unemployment compensation positions, were either held or scheduled in 28 States. State public assistance staffs of 13 States are appointed under statewide civil service systems.

In Pennsylvania, Nebraska, Montana, Arizona, Washington, and Indiana, the welfare departments operate under a formal merit system. In Washington, which has a State Social Security Department, and in Indiana where there is a Joint Bureau of Personnel, the merit system covers both unemployment compensation and public assistance units. The Oklahoma Department of Public Welfare adopted merit system regulations in 1938 but the system has not yet been put into operation.

EDUCATION

The bulk of legislation on education dealt with the problem of school financing. New Jersey passed a bill providing for $1,706,000 to make up a deficit in the state school tax and reimbursed school districts nearly $60,000 for the excess cost of educating crippled children; New York appropriated $123,000,000, an increase of $600,000 from the previous year; an emergency fund of $1,000,000 for distressed high schools in Illinois was provided; and Kansas and Virginia contributed respectively $2,500,000 and $1,000,000 to the state school funds.

In Georgia, a law was passed legalizing and imposing excise and license taxes on the manufacture and sale of alcoholic liquors. This revenue, by constitutional provision, is paid to a common school fund. Ohio will continue to give 60 per cent of the sales tax proceeds to the state public school fund after appropriations for relief have been subtracted. New Jersey increased the state school tax from 2.75 to 2.9 mills.

Kentucky, Louisiana, and Pennsylvania took action to promote the construction of school buildings. First class cities in Kentucky are now permitted to impose a tax, additional to all , others, for this purpose. In Louisiana, the legislature authorized a $6,000,000 bond issue to be used for construction under the supervision of the State Board of Education. Pennsylvania's action was the inauguration of a $75,000,000 program, 45 per cent of the cost to be furnished by direct grant from the Federal Government and the remainder raised by a state bond issue.

Other measures were a retirement system for public school teachers in Kentucky, the creation of a commission to study the advisability of an additional year to the common school system in Louisiana, and the authorization to schools in Mississippi to lease lands for oil and gas exploration.

PLANNING AND ZONING

The number of state planning boards reached a new high of 40 in 1938 as both the South Carolina and Virginia legislatures passed the necessary statutes. Although the trend is distinctly toward treating the planning organ as an arm of the executive, the South Carolina law provides for some appointments by the Senate and House. The Virginia act makes the board an all-executive department agency, however, appointments resting entirely in the hands of the Governor. Among the States which have not established statutory boards, only three of the eight—Connecticut, Delaware, and Maine—have no comparable bodies, for in Arizona, Kansas, Minnesota, Ohio and West Virginia, Governor's Boards have been created. In the realm of zoning, Kentucky approved a bill for the setting up of a Capitol Planning and Zoning Commission authorized to adopt zoning ordinances.

A few States amended existing laws but, on the whole, the dearth of regular legislative sessions made inroads into possible planning legislation. In Georgia, counties of a certain size were authorized to pass planning and zoning ordinances should 51 per cent of property owners consent, while Massachusetts conferred zoning authority on all cities but Boston. New York amended town planning laws relative to public improvements and map specifications. Kentucky extended the planning areas of third and sixth class cities to five miles beyond the municipal boundaries.

LEGISLATIVE AIDS

The slack legislative year brought few changes in legislative processes such as the creation of new legislative councils and legislative reference bureaus. The Illinois and Nebraska councils, appointed in 1937, set their research machinery in motion and completed several studies requested by legislators. The Illinois members, prior to their formal organization, travelled to Topeka, Kan., seat of the highly successful Kansas Legislative Council, and conferred with their more experienced brethren on details of the scope and nature of a legislative council's work.

One of the most comprehensive studies ever to be prepared by a state committee made its appearance this year, the New York State Constitutional Convention Committee Report. Appointed by Governor Lehman "to collate factual data for the use of delegates to the Convention," the Committee prepared 12 exhaustive volumes on all phases of state and local governments in the United States.

NATIONAL AND INTERSTATE RELATIONS OF STATES

By Rodney L. Mott

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GROWTH OF INTERSTATE COOPERATION

An increasing use of the established methods of interstate cooperation rather than the development of new techniques or the invention of unique devices was the chief characteristic of the relations between the States during 1938. More than 50 conferences of official or semi-official representatives of the various States were listed in the "Interstate Calendar" which is published each month in *State Government*. This number includes only the more important conferences, and the numerous meetings of committees of those conferences or the meetings of permanent agencies of interstate government like the New York Port Authority are not counted. These conferences ranged from technical meetings to consider such problems as the methods of governmental purchasing to the more general Governors' Conference at which a variety of subjects were discussed.

MEETINGS AND CONFERENCES

The character of these conferences was as varied as are the subjects they considered. Half a dozen of them were semi-permanent commissions which were giving continual consideration to interstate problems. The pollution of interstate streams, the regularization of oil production, the promotion of uniformity in legislation, the reduction of conflicting taxation, and the harmonizing of state social security administration, are each being considered by these commissions. A second group of conferences is somewhat less official, but nevertheless continues its efforts. Highway safety, probation and parole, taxation, liquor regulation, banking, and public welfare, were all considered in conferences of this kind during 1938.

One of the most important types of conferences is the annual meeting of the various organizations of public officials. More than a score of organizations of state officials held annual meetings during the year. At these gatherings, officials exchange experience, discuss common problems, and lay the groundwork for effective cooperation by state administrative officers. Secretaries of State, Attorneys General, Civil Service Commissioners, Fiscal officers, Insurance Commissioners, Welfare officers, Motor Vehicle Administrators, School Administrators, Planning Officials, and Governors, are among the more active state officers who are taking advantage of this form of cooperation.

A fourth type of conference is called to consider some special problem. It may result in the establishment of a continuing commission, or its work may be finished at a single meeting. During 1938, special conferences of this character were held on as diversified subjects as freight rates, flood control, oil prices, fisheries, water power, and liquor control.

An interesting illustration of the extent to which the idea of the interstate conference has taken hold is found in the Model Interstate Conference which was held at Harrisburg, Penn., during the year. College students have frequently participated in model sessions of the United States Senate, the Council of the League of Nations, the State Legislature, or the national nominating conventions. To this list should now be added the conference to consider interstate problems, in which 300 students from 36 colleges participated.

COUNCIL OF STATE GOVERNMENTS

With so many interstate conferences being held each year, the need for an agency to coordinate their work is obvious. During the past four years this need has been effectively met by the Council of State Governments. Although the Council has been hampered by the failure of the state legislatures to give it both moral and material assistance, the lawmakers of the States are now gradually coming to appreciate the importance of interstate cooperation. With only eight legislatures meeting in regular session during 1938, three additional States established a Commission on Interstate Cooperation and became members of the Council of State Governments. This brings the number of member States to 37 and includes all the larger industrial States. Eleven of these States now contribute to the support of this agency. In addition to furnishing a clearing house for the various interstate conferences which may be called by other groups, the Council itself has called several and has established a number of Interstate Commissions for the more continued study of such important problems as river pollution, conflicting taxation, social security, and conservation of natural resources.

The formal results of these conferences are a series of resolutions and agreements, but even more valuable is the mutual understanding which is developed between legislators and administrative officials of the various States. While conferences have been more successful in crystallizing opinion on interstate problems than in carrying their recommendations into effect, the task of implementing their decisions has by any means not been neglected.

INTERSTATE AGREEMENTS

During the year, three interstate agreements have been made. The first was an agreement between the Secretary of Revenue of Pennsylvania and the Commissioner of Motor Vehicles for New York, and provided for the reciprocal regulation of buses operating between these two States. The second agreement was between West Virginia, Pennsylvania, and Connecticut and provided that unemployed persons who may move from one State to another may still claim unemployment insurance compensation by making application in the State where he resides. A similar agreement already exists among the New England States. The third agreement was embodied in the Rio Grande Compact and was designed to settle controversies which have arisen between Colorado, New Mexico, and Texas over the water from that stream.

THE TREND AWAY FROM INTERSTATE COMPACTS

There is some evidence of a trend away from the use of interstate compacts toward other methods of implementing cooperative action among the States. The inflexibility of treaties between the States (they can only be changed with the consent of each of the States ratifying them and also with the consent of Congress) made them unsuited to the regulation of social conditions which are rapidly changing. This fact has caused some of the States to hesitate to ratify a compact, especially if it was feared that future conditions might be substantially different. Furthermore, the difficulty of enforcing compacts was considerable. Until the decision of the Supreme Court of the United States in *Hinderlider v. La Plata River Co.* (304 U.S. [1938] 92, 82 L.Ed. 1202, 58 S. Ct. 803) there was even doubt whether the courts would enforce some forms of compact where individual rights were involved. That decision removed judicial difficulties to enforcement, but administrative problems still remain.

One of the most important of the compacts in recent years was the Interstate Oil Compact which provided for the proration of oil production. Several oil producing States failed to sign the compact, with the result that the Interstate Oil Commission had no control over about one-eighth of the annual output of oil in the United States. From the outset, therefore, it has had serious difficulty in enforcing the provisions of the agreement. As a result, some of the States have grown lukewarm to the entire project, and individuals like Governor Marland (one of the sponsors of the compact) are now reported as favorable to direct Federal intervention. This compact will expire in September, 1939, unless the States which are parties to it renew it for another period.

THE ADVANTAGE OF ADMINISTRATIVE AGREEMENTS

The difficulties which have developed in the use of interstate compacts do not apply to simple agreements between administrative officers. These agreements can be altered as conditions require, and since they are direct agreements between administrative officials, they are considerably easier to enforce than are legislative compacts which are certain to have political aspects. Furthermore, administrative agreements do not require Congressional approval, and so they are considerably easier to negotiate than are the more formal compacts. It is perhaps significant that during 1938 two of the three interstate agreements were administrative arrangements. The third will not become effective until it is ratified by the legislatures of the respective States in their 1939 sessions.

The effective use of administrative agreements, however, often requires state legislation to authorize them. These agreements have long been authorized and used in the insurance field, and more recently they have been recommended by conferences interested in promoting highway safety, liquor control, and more stringent tax administration. It remains for the future to show whether or not the legislatures will follow these recommendations.

FEDERAL-STATE CONFLICTS

The conflicts between state and Federal authorities, which have been smoldering during the past decade, developed into live embers during the past year. It is inevitable that conflicts should arise between the two levels of government when they both desire to regulate the same subjects or when they both wish to occupy the same field. The growing power of the National Government, especially since 1930, has made many state officials apprehensive lest it ultimately reduce the States to mere administrative districts, if indeed they be not wiped out entirely. This fear has been a potent force leading toward greater state unity, always latent and sometimes expressed. The proceedings of the conferences held during 1938 indicate that this fear is increasingly widespread.

THE TAX QUESTION

The decision of the United States Supreme Court in *Helvering v. Gerhardt* (304 U.S. [1938] 405, 82 L.Ed. 1427, 58 S. Ct. 969) served seriously to increase this apprehension. This decision held that salaries of employees of the New York Port Authority are taxable under the Federal income tax statute. It was accompanied by considerable discussion in Federal administrative circles of the desirability of taxing the salaries of state employees and the interest on state bonds. As a result the opening which the Port Authority Case made in the constitutional protection of the States from Federal taxation immediately aroused the States to action. Within a few months a Conference on State Defense was organized, with half of the state attorneys-general as members, to fight further encroachments on state privileges. Other state officers freely expressed the view that attempts to tax the States would certainly lead to state taxation of nongovernmental Federal agencies, including the Tennessee Valley Authority and other Federal corporations.

RIVER SANITATION

The protection of interstate streams from pollution was another field in which State-Federal conflict developed. The importance of protecting these streams has been brought to the public attention by the work of the Interstate Sanitation Commission in connection with the waters around New York City, and the work of the Interstate Commission on the Delaware River Basin in connection with the pollution of that stream. As a result, there was considerable demand that the Federal Government assist localities in building sewage treatment works and other projects to reduce the pollution of important rivers.

A bill to provide Federal aid to river sanitation was before the last Congress, but considerable disagreements arose concerning the wording of its provisions. The Senate proposed an amendment which would give the Federal Government authority to compel the States to comply with decrees of the Water Pollution Control Division, which the bill would establish in the Public Health Service. This proposal aroused strong state opposition. A meeting of the Interstate Commission on the Delaware River Basin was devoted to the consideration of the measure with the result that vigorous opposition was registered to any Federal statute which would prevent the States from controlling their own water resources. The Commission, furthermore, insisted upon an opportunity to be heard by the Congressional committees in advance of any action on this subject.

The House of Representatives favored a more conciliatory wording, and the conference committee finally recommended a measure which did not contain the Senate provisions. As finally passed by the two Houses, the bill, known as the Barkley-Lonergan Bill, authorized loans and grants to municipalities to help them construct sewage treatment works, or other public works to conserve interstate waters from pollution. It also gave the consent of Congress in advance to any interstate compacts which are designed to reduce stream pollution. The President, however, vetoed the act on the ground that it did not conform to the principles of the Federal executive budget system. The bill provided that expenditures for preventing stream pollution should be considered directly by Congress without being incorporated in the Federal executive budget. This would have by-passed both the President and the Bureau of the Budget, and the President feared that it would open the door to wasteful spending.

INTERSTATE FLOOD CONTROL

The disastrous floods which have periodically occurred in various sections of the United States have focused attention on the need for a comprehensive system of interstate flood control. The New England States had entered into two compacts to provide for flood control projects on the Connecticut and Merrimac Rivers. In each case, opposition of Federal administrative officers prevented the consent of Congress to the compacts, and consequently they have never been put into effect. An alternative plan, in the form of Federal aid for flood control, was developed by the Federal Administration, and the governors of the New England States early in 1938 held a conference in the White House to consider it.

When the Federal flood control bill was before Congress, however, an amendment was made to it which required the Federal Government to own the land on which all dams and reservoirs were to be constructed. Many of the States, both in New England and elsewhere, strenuously objected to this clause, for it was feared it would give the War Department the right to condemn lands within a State without consulting the State or without reimbursing it. Since this would give the Federal Government complete control of the land on which the dams were located, it would also have control of all water power developed at those dams. It was feared that this control might enable the National Administration to set up a series of little TVA projects, injuring local electric companies, and through the control of power forcing the States to conform to Federal desires.

Governor Aiken of Vermont flatly demanded that the Federal Government agree to a contract in which any transfer of land would be "without prejudice to the rights of the State of Vermont." When this contract was refused, he promptly took the matter to the legislature and was voted $67,500 to prosecute a legal battle for the rights of the State. In this he will have at least the moral support of the other New England Governors. That the fears of the Federal use of flood control projects to dominate the States are not confined to New England is evidenced by the opposition of the Delaware River Commission to the use of Federal authority in the development of water resources, including water power.

Reverberations of the struggle were heard at the Governors' Conference which was held at Oklahoma City during September. The discussions at that meeting centered around the relations between the Federal Government and the States. The fear that the growth of interstate trade barriers might result in Federal intervention, the danger of taxation of State employees, the activity of the Federal Government in influencing administrative standards of the state governments, and the flood control controversy were all given extended discussion.

FISHERIES

On the other hand, there are a group of projects in which the States seem to welcome national assistance. An important example of this kind of project is the need for control of fishing in the Great Lakes. For 50 years powerful commercial interests, engaged in exploiting the fish resources of the Great Lakes, have played one State off against another and thus prevented the conservation of this important food supply. Since 1883, 22 conferences on this subject have been held, but each of them has come to naught. In 1938, the Michigan Commission on Interstate Cooperation called a Great Lakes Fisheries Conference to be held in Chicago during February. Commercial fishermen and those with special interests in the exploitation of the fisheries were excluded from the conference. As a result, state officials, both administrative and legislative, discussed calmly the extent to which sturgeon, white fish, cisco, and perch have been depleted in the Great Lakes. The Conference included representatives of the Federal Government and of the Province of Ontario as well as delegates from all the States concerned.

The Great Lakes Fisheries Conference recommended that the Federal Government negotiate a treaty with Canada to establish a board of inquiry to study the problem further. This board would also have the duty of drafting measures for the conservation of the fisheries. It was hoped that ultimately an international treaty on fisheries might be made between the United States and Canada somewhat similar to the present treaty regulating the hunting of migratory birds. Within a month Congress had given consideration to this problem, and a law consenting to an interstate compact on the subject was approved. Meanwhile, further consideration was given to the proposal for an interstate treaty.

Toward the end of the year, representatives of the Middle Atlantic States met in a conference on conservation to consider the problem of conserving marine fisheries. It recommended the drafting of an interstate compact on this subject, and proposed the enactment of necessary Federal legislation to cooperate in preserving this food resource.

INSURANCE

Each of these problems has its international implications, and for that reason obviously could not be settled by the States alone. If the need were to be met, the assistance of the Federal Government was essential. In the regulation of insurance, on the other hand, the Federal Government has never played any part. This has always been a purely state problem, with the result that interstate cooperation has developed as far in this field as in any other. During June of 1938, the National Conference of Insurance Commissioners met in Quebec with the Canadian officials to form an International Conference of Insurance Commissioners. Through this organization it was hoped that problems of broader scope than those arising solely within the United States could be more effectively dealt with. The fact that one of the oldest and most powerful of the organs of interstate government found it desirable to extend its activities to Canada is evidence that the movement for closer cooperation between the States is by no means a provincial one.

STATE CONSTITUTIONS, REFERENDA AND INITIATIVES

By Walter Sandelius

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GENERAL

The year 1938 proved to be an active year for the electorates, with voters in 33 States passing judgment on 206 measures embodying over 260 proposals. Of these 206 measures, 117 or 57% were approved while 89 or 43% were rejected. Proposed amendments to state constitutions numbered 158, of which 115 were proposed by legislatures, 30 initiated by popular petition, and 13 proposed by constitutional conventions. Eighty-three or 72% of those proposed by legislatures, nine or 30% of those initiated by petition, and seven or 54% of those proposed by constitutional conventions, passed. Of the 48 statutory measures, 17 were approved. Among the 24 statutory measures introduced by the legislature, four were referred to the people by initiative petition, seven were passed. Of the 24 statutory measures initiated by petition, 10 were adopted.

States voting on the larger number of measures were: Louisiana, which approved of 26 constitutional amendments, all initiated by the legislature; Georgia approved of 23 constitutional amendments likewise proposed by the legislature; and California voted on 19 proposals of amendment and six of statute for a total of 25 referred measures. All measures were voted upon at the general election on Nov. 8 except 13 North Dakota propositions submitted at the primary election June 28.

Included in this statistical summary are of course the amendments proposed in the two constitutional conventions that were held during the year, contents of which below are analyzed separately from contents of other measures as grouped later according to subject matter.

NEW YORK CONSTITUTIONAL CONVENTION

Nothing touching the fundamentals of state government during the year was of more general interest than the New York convention which went into session on April 5 with the object to "streamline" the constitution and incidentally to reduce it in length until it should be "a mere broad statement of powers." Experts of governmental science who had hoped that this convention would prove a noteworthy example of what could be done to simplify present complicated constitutions were disappointed, however, in the convention's failure on this point, as attested by a comparison between the 50,000 words and 20 articles of the convention's proposed constitution, and the 30,000 words and 14 articles of the old constitution.

The convention, New York's first in 23 years, presented from the start a complicated political background. Planned by a legislature dominated in the Senate by Democrats and in the Assembly by Republicans, the latter managed to elect 92 delegates to the Democrats' 76 and took control of all the important convention committees. The convention remained in session for 19 weeks; it received and considered 694 proposals, adopted 57 which were submitted to the people in nine sections and six eventually were approved and three rejected by the electorate. The rejected amendments dealt with reapportionment of the legislature, judicial review of administrative acts, and elimination of proportional representation. The approved amendments dealt with grade crossing elimination, housing, rights of labor, social welfare, transit unification and, in a so-called general proposals amendment, with a large number of changes in the fundamental law.

The more important of constitutional changes approved may be summarized briefly. The grade crossing amendment relieves the railroads of obligation to pay half the cost of grade crossing elimination projects, and provides that the State shall pay for any such undertaking in the first instance while later it may assess against the railroads that part of the cost of the project which is determined to be unnecessary to the actual elimination or which is a definite benefit to the railroad. The assessment, however, may not be more than 15% of the total cost of the project, and is to be determined in a manner to be prescribed by the legislature.

The housing amendment provides that the state and local governments, on approval of the legislature, may use their credit in the financing of low-cost housing and slum clearance projects. Taxes for amortization of housing loans must be specified in the legislation authorizing the loan. The State may issue bonds up to $300,000,000 for housing without recourse to the people, and the legislature may extend the debt limit of cities up to 2% to enable them to finance housing projects.

The labor amendment declares that the labor of human beings is not a commodity or an article of commerce; requires, moreover, that public contracts shall observe a 5-day week and an 8-hour day, and pay prevailing wage rates. Employees shall have the right to organize and bargain collectively, through representatives of their own choosing.

The social welfare amendment grants in broad terms permission to the legislature to appropriate, tax, and borrow to provide for the aid, care, and support of the needy, including insurance against the hazards of unemployment, sickness, and old age.

The transit unification amendment permits New York City to issue up to $315,000,000 in bonds for the purchase of local railway-transit systems.

The general proposals amendment, more hotly contested, and approved by a narrower margin, than any of the others, takes in its scope more than 40 matters of constitutional change, among the more effectual of which concern personal rights, finance and taxation, home rule, public corporations, suffrage, and the organization and powers of the legislature. The personal rights provisions would guard defendants in criminal cases against improvident waiver of trial by jury through a requirement that such waiver must be signed in an open court under the supervision of a judge having jurisdiction to try the offense. Searches, seizures, and interceptions of telephone and telegraph communications are forbidden except by court order. Public officials who are called before a grand jury and refuse to waive immunity to subsequent criminal prosecution or to answer any relevant question shall be removed from office by the appropriate authority or forfeit office at the suit of the attorney-general.

The finance and taxation section provides that the State may issue notes in anticipation of bond sales and may issue callable bonds. The maximum term of state bonds is reduced from 50 to 40 years, except housing bonds. Tax exemption may be granted only by general law, and may be repealed except on property used for religious, educational, or charitable purposes. The legislature is prevented from prohibiting a fair return on a local unit's investment in public utilities. The home rule portion of this amendment prevents the legislature from enacting special laws in regard to local units without either request of the local unit or certification by the governor that an emergency exists. General home rule laws are extended to apply to all villages of more than 5,000 population.

In reference to public corporations the amendment specifies that these may be created only by special act of the legislature, and the obligations and property of such corporations may at any time be taken over by the State. At the same time, any such corporation may not undertake in the community to supply any service previously supplied by a local unit government without approval by referendum in the areas concerned. The main suffrage provision authorizes the legislature to provide means of permanent registration. The legislative section increases senators' terms to four years, and repeals the former ineligibility to the legislature of certain Federal and city officers. Legislative re-apportionment, however, was rejected, and the amendment which sought to ban proportional representation from all elections within the State was defeated by the most decisive vote of any upon the New York measures.

NEW HAMPSHIRE CONVENTION

The only State which does not authorize its legislature to initiate constitutional amendments held a 20-day convention in May. The convention proposed four amendments of which one was adopted by the electorate, namely to limit the use of net revenues received by the State from gasoline and motor vehicle taxes exclusively to highway purposes. Two of the three measures which failed received a majority of the votes cast, but failed of the two-thirds vote necessary for adoption in New Hampshire. The only vital proposal, one that would have empowered the legislature to conserve natural resources while encouraging business through the possibility of imposing taxes at special rates upon growing timber, upon stock in trade and upon machinery, also to tax the sales of certain commodities, and to impose graduated inheritance taxes and graduated income taxes at rates never higher than 6%, was rejected far more decisively than any of the other amendments.

LEGISLATIVE, EXECUTIVE, AND ELECTORAL RELATIONS

Louisiana reapportioned legislative representation, while Oklahoma and South Dakota turned down similar amendments. A legislative constitutional amendment in Massachusetts provides biennial instead of annual sessions of the legislature, and requires accordingly that the budget be made on a basis of two fiscal years. Texas altered the oath of office for members of the legislature and state executive officials. The phrase, "swear to defend the Constitution of the United States" is substituted for the words, "will conduct my office agreeably to the Constitution of the United States." Also, that portion in which the officer formerly swore that never had he taken part in a duel is now omitted. As to the relation between executive and legislative spheres, initiated amendments in North Dakota and in Arizona require henceforth that no state officer appoint a member of the legislature to any position or employment whatsoever during the term for which the legislator was elected.

An initiated amendment in North Dakota provides that the tax commissioner shall be elected on a non-partisan ballot for a four-year term, while Washington has passed an initiated statute to provide for non-partisan elections of state and county school superintendents. Nebraska rejected an amendment to increase to four years the terms of state elective officers. The same amendment sought to authorize that 25% of the electorate might cause by petition a recall election to be held on the continuation in office of any state officer. Further, with reference to the methods of direct democracy, California voted to increase from 90 to 130 days the time required between presentation of an initiative proposal and final referendum.

In the strictly local sphere, North Carolina and Montana adopted amendments giving four-year terms to principal county officers, while Michigan rejected a similar attempt. The authority of subdivisions of Louisiana was further extended, in contrast to California where extension of local authority was denied.

JUDICIAL ORGANIZATION AND PROCEDURE

Arkansas passed a legislative constitutional amendment providing for the consolidation of the chancery and probate courts of each county and authorizing the legislature to carry out the details of this consolidation; passed also an initiated constitutional amendment authorizing the Supreme Court of Arkansas to make rules regulating the practice of law and the professional conduct of attorneys at law. California approved an amendment proposed by the legislature automatically removing the judges of any state court on conviction of crime. The California voters turned down amendments which would have given the judicial council power to adopt and amend rules of judicial conduct governing all the judges in the State. Louisiana approved four amendments providing together that each parish shall have a juvenile court separate from the district court, and making various provisions for the retirement of district attorneys and judges of courts of record. New Mexico adopted an amendment permitting the chief justice of the supreme court to designate any justice of that court to serve in any district when no district judge is available. North Dakota served to illustrate again the conservative tendency of electorates, or perhaps the power of county officers' organizations, in rejecting an amendment with the aim to combine certain county offices in small counties. South Carolina roundly defeated an amendment to provide for retirement of judges. An amendment rejected by the voters of Michigan would have provided for the nomination of supreme court justices by a non-partisan board plus appointment by the Governor for an eight-year term. Similarly, an Ohio amendment, rejected, sought to provide for the original appointment of judges of the supreme court and of the court of appeals.

TAX EXEMPTION

Florida exempted homesteads to an assessed valuation of $5,000. Louisiana authorized the State Board of Commerce and Industry to grant 10-year exemptions to new manufacturing plants as well as to new additions to existing plants, exempting also new homesteads, new improvements on homesteads, household property to the value of $1,000, farm implements to the value of $500, agricultural products owned by the producer, and a few other classes of property. Arkansas made similar authorization for the Governor together with the Agricultural and Industrial Commission to contract with managements of new manufacturing establishments to allow exemption of such establishments from property taxes for a period of ten years, the same authority to apply to the exemption of additions and improvements upon old establishments. A tax exemption proposal was rejected by California.

SOURCES OF REVENUE AND FINANCIAL ADMINISTRATION

California disapproved amendments to introduce the single tax and to provide for tax equalization boards, while approving by popular vote another taxation measure of exceedingly technical nature, with the result that there is imposed on insurance companies a tax of 2.6% of their gross premiums less return premiums, this being regarded as necessary in view of a recent U.S. Supreme Court decision, in order not to lose to the State $1,000,000 of annual taxes. Opponents of the measure argued that financial gain to the State would come the other way about. Georgia authorized counties to levy a tax for fire protection of forest lands and conservation of natural resources. Louisiana placed a constitutional limit on the severance tax on sulphur of $1.03 per ton. By an initiated statute, Washington placed a 40-mill limit on real and personal property taxes.

Oregon declined to pass an initiated statute which would have levied a transaction tax.

California and Michigan amended their constitutions to prevent the diversion of gasoline and motor vehicle taxes to other than highway purposes. Alabama denied a similar amendment; while Missouri rejected an amendment together with a referred statute aimed together to raise the gasoline tax from two cents to three. Amendments to repeal the double liability of bank stockholders were passed in Nebraska and West Virginia, and voted down in Illinois and Oregon. Montana amended her constitution to provide for the investment of all permanent state funds through the Montana Trust and Legacy Fund. North Dakota gave the treasury more direct control over state money and denoted the terms for sales of school land.

STATE AND LOCAL BOND ISSUES

Five States voted upon state bond issues. Two were approved by amendment, one by an initiated act. One proposed amendment and six referred acts were rejected. Accordingly Louisiana is empowered to issue $5,000,000 worth of bonds for highway construction and $5,000,000 for a new capitol. An approved initiated act in Montana authorizes the State to issue $3,000,000 of debenture bonds under the direction of the State Highway Department to match Federal highway allocations. Proceeds of the 5¢ per gallon gasoline tax are pledged to retire the debentures, and the State is bound not to reduce the tax until the debentures are paid. Arkansas rejected an amendment that would have authorized the refunding of all the highway bond issues of 1934 bearing interest at more than 3% at a lower rate of interest. Authorization to public utilities commissions in California to issue revenue bonds, after decisively passing the legislature, was referred to the people and successfully fought by private utility interests. Issues of public improvement bonds were defeated in the vote upon five referred statutes in Rhode Island.

Three states—Georgia, Louisiana, Alabama—presented on the state ballots questions of the right of purely local authorities to issue bonds. In all, 21 such issues were voted upon, all in the form of constitutional amendments proposed by the legislature, all approved.

SOCIAL SECURITY

California adopted an amendment declaring that the legislature has power to provide for relief administration, and may alter, transfer, or enlarge the powers of state relief agencies; the legislature or people may amend, alter or repeal the relief laws; and the State may grant aid directly through the counties. California rejected the notorious, initiated amendment which would have created a State Retirement Life Payments Administrator under legal obligation to issue to each qualified California elector, of over 50 years of age and neither employer nor employee, 30 $1 warrants each week, these to be redeemable in cash by the administrator and acceptable in payment of obligations due to or from the State and its subdivisions. Georgia's new social security amendment authorizes the legislature to delegate to any county the right to levy a tax to provide medical and other care and hospitalization for the indigent sick of the county.

Arkansas adopted an amendment which permits the legislature to fix the amount of compensation to be paid by employers for the injury or death of employees, to determine also the beneficiary and the method of adjusting and securing such claims. A popularly initiated statute in North Dakota changes the minimum income for persons given old age assistance to $40 per month, except where more than one in a family receives assistance in which case the minimum will be $30. Missouri passed an amendment authorizing the legislature to grant pensions or assistance to persons over 65 years of age. Oregon voters approved in principle the Townsend Plan. Oklahoma rejected an amendment which would have empowered the legislature to provide retirement allowances and death and disability benefits to teachers in state supported educational institutions. Colorado rejected an amendment to the old age pension amendment which sought to give the legislature control over the administration of old age funds.

LIQUOR CONTROL AND PUBLIC MORALS

Approved by Montana was a referred act authorizing the Montana Liquor Control Board to grant licenses to retail stores, to regulate them, and to exact penalties for violations of its rulings. An initiated act in Arkansas to reduce the number of signers upon a petition to call an election on the subject of liquor control was defeated. North Dakota approved a referred act prohibiting dances on premises in which or adjacent to which intoxicating liquor is sold, and rejected an initiated act with aim to repeal the North Dakota Liquor Control Act. An initiated constitutional amendment in Oregon proposing to legalize lotteries was lost. A similar amendment was defeated in Maryland. Measures to legalize slot machines were rejected in Oklahoma and Nebraska. Oregon approved two referred acts, one authorizing sheriffs to seize and destroy slot machines, and the other prohibiting pin-ball games, dart games, and other gambling devices. A referred act approved by Maryland requires a 48-hour waiting period between application for a marriage license and performance of the ceremony.

ELECTORAL LEGISLATION

By Louise Overacker

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NOMINATIONS

The most notable development in the field of elections was the passage of a mandatory, state-wide direct primary law by New Mexico, one of the three States which retained the convention method of nomination. The law contains no novel features. It applies to those parties which polled as many as 15 per cent of the total vote for governor at the last general election, and to nominations for national, state, county and precinct officers chosen at the biennial general election. The date is the second Saturday in September. To have his name placed upon the primary ballot an individual must file both a personal declaration of candidacy and a petition signed by from five to 500 qualified voters (depending upon the office), and pay a fee equal to three per cent of the first year's salary of the office sought. Names are arranged upon the ballot in the order in which declarations of candidacy are filed. The primary is closed, but the only test of affiliation is willingness to swear, upon challenge, that one intends to vote that party ticket at the next general election. A plurality vote is sufficient to nominate.

A variety of amendments affect the direct primary laws of other States. In Louisiana, in the future, all nominations for United States senator and representative in Congress are to be made at the September primaries. Heretofore, in the years when a governor was elected, such nominations have been made at the state primary in January. The repeal of the Massachusetts pre-primary convention law in 1937 and the blanket re-enactment of previously existing statutes raised numerous complications and ambiguities which were cleared up by specific amendment in 1938. Massachusetts provided also that candidates for renomination to state offices of which they are the elected incumbents shall have their names printed first on the primary ballot, and that all candidates for nomination must present evidence that they are enrolled members of the political parties whose nominations they seek. Mississippi extended to wives of ministers the privilege already enjoyed by their husbands of voting in primaries after six months' (instead of one year's) residence in the election district. In South Carolina the party state convention was expressly given the power to add to, or limit, the qualifications for membership in the party. Arkansas, which abandoned the "run-off" primary in 1935, readopted it by popular vote in 1938. Kentucky and Massachusetts changed slightly the filing dates for certificates of nomination.

Rhode Island, which still retains the convention system, made numerous changes in the caucus law governing the choice of delegates to nominating conventions. Polling hours were made uniform throughout the State. The use of voting machines was authorized with the stipulation that the strategic left-hand column on the machine be reserved for the nominees of party committees and be headed "Candidates of party committees." The number of signatures necessary to place a candidate upon the ballot at the caucus was increased and the dates for filing nominations moved forward.

PARTY ORGANIZATION

Massachusetts provided for equal representation of men and women on the party state committees, increased the term of all party committees from two to four years, and made possible the endorsement of candidates for the party state committee by senatorial district conventions called at the request of 50 enrolled party voters of the district and composed of the ward and town committeemen within that district. Changes were made also in the structure and functions of the state convention. The convention is to be composed of elected and *ex-officio* members. The state committee determines the number of elected delegates but each ward and town must have at least one. *Ex-officio* delegates include the United States senators of the party from Massachusetts and nominees of the party for offices to be filled at the state election or the incumbents of those offices in years when no elections are held. The state convention must be held not earlier than one week nor later than two weeks after the September primary, the exact date being fixed by the state committee. The chief functions of the convention are to draft a platform and nominate presidential electors. New York extended somewhat the powers of county committees. In Rhode Island the state committee was authorized to delegate powers to a sub-committee of the executive committee as well as to the executive committee itself, and elected representative district committees were added to the party hierarchy.

REGISTRATION

Kentucky, which passed a permanent, state-wide, registration act in 1936, has found it necessary to provide for a purgation of registration lists by county boards, appointed by the State Board of Election Commissioners (acting as a state board of registration and purgation), and responsible to it instead of to local officers. In cities of the first class a house to house check-up of voters was provided for. In Massachusetts a complete verification and revision of the voting lists was authorized during the period Dec. 1, 1938 to Dec. 1, 1939. Cards containing detailed information about voters and signed by them are to be made part of a new register compiled Jan. 1, 1940. Sole responsibility for the annual listing of adult residents was placed upon the registrars of voters, except in Boston and certain other cities where the listing board includes the police commissioner or chief of police. New York has extended the privilege of absentee registration to the wives, widows, mothers, and dependent daughters of veterans who are inmates of state institutions. In Virginia a voter moving from one election district to another may have his registration transferred and may vote at his new residence if he has resided there six months (instead of one year) previous to the election at which he wishes to vote.

CONDUCT OF ELECTIONS

The use of voting machines was provided for in primary and general elections in cities of 200,000 or more in Georgia, and in all voting districts in Kentucky. Massachusetts required paper ballots and separate ballot boxes to be provided for the ballots of challenged voters where machines are used. Minor changes in the conduct of elections and the casting and counting of ballots were made as follows: Georgia, polling hours in certain districts; Kentucky, printing and distribution of ballots; Massachusetts, use of words "candidate for re-election" on the ballot and recounts when there is reason to believe that challenged votes were cast by persons not entitled to vote; Mississippi, pay of election officers; and New Jersey, county election boards to file statements of election returns with chairmen of the party state committees.

CORRUPT PRACTICES

New Mexico's new direct primary law requires post-primary reports of the expenditures of all candidates for nomination and bars from the ballot the name of any candidate who fails to file such a report. The amounts which candidates may spend are limited ($3,500 in the case of candidates for United States senator and $2,500 in the case of governor or representative in Congress), but expenditures for stationery, postage, printing and necessary traveling and subsistence expenses are excepted from these limitations.

INITIATIVE AND REFERENDUM

Hereafter, propositions submitted to the voters in New Jersey are to be presented in "simple language." Virginia modified the form of the ballot used in submitting referenda proposals. Massachusetts required the questions of authorizing horse and dog racing to be submitted to the voters in each city and town in 1938 and every fourth year thereafter.

SPECIAL AND LOCAL ACTS

Among the more important special or local acts affecting the electoral process are the following: Massachusetts, optional plan of city government providing for a council elected at large by proportional representation, biennial municipal elections in Gloucester and Lawrence, nomination of candidates for local offices at party primaries in City of Medford; and New York, regulating conduct of elections and use of voting machines in Monroe county and the City of Rochester.

LAW REFORM

By Clinton Rogers Woodruff

Honorary Secretary, National Municipal League

ANNUAL MEETING OF THE AMERICAN BAR ASSOCIATION

The sixty-first annual meeting of the American Bar Association was held in Cleveland, Ohio, July 25–29, 1938. The meeting was notable for the friendly and earnest spirit which pervaded its sessions, for the representative attendance, for the substantial accomplishments attained in several major fields, and for the presence of eminent representatives of England and Canada. The meeting was made notable by the presence of Lord Macmillan of England, E. H. Coleman, K.C., delegate of the Canadian Bar Association, Mr. Justice Roberts and Mr. Justice Reed of the United State's Supreme Court; the then Attorney-General Homer Cummings and Solictor-General Robert H. Jackson.

The objectives of the meeting were trenchantly stated by President Vanderbilt in his annual address, the keynote of which was the united stand of the Bar in behalf of the improvement of the administration of justice as one of the vital steps in preserving the essentials of democracy and the freedom of individual citizens. President Vanderbilt brought to a climax his efforts during the year to develop practical recommendations for procedural reform in the state courts, but he rightly placed the emphasis upon effective resistance to any of the forms of arbitrary action which arise whenever there is a breakdown in the speedy administration of justice according to law.

Outstanding achievements of the Association year, embodied in the preparation and submission of a series of reports suggesting practical measures, received the hearty approval of the Association and were transmitted to the Bench and Bar of the country for comment and suggestions for improvement but most of all for concerted efforts in order to bring about in the state courts measures of procedural reform similar to those which after long struggle are about to go into effect in the courts of the United States.

PROTECTION OF INDIVIDUAL RIGHTS

With the Association's support for these measures of procedural reform assured by the action of its policy-determining body, the incoming president of the Association appropriately placed the emphasis of his induction address on the desirability of active cooperation by the American Bar Association with local and state bar associations and others in behalf of the protection and defense of the rights vouchsafed to individual citizens by the Bill of Rights. As is best reflected by its text, the whole tenor of President Hogan's declaration was to the effect that, although individual lawyers serve the interest of citizens, the efforts of the organized Bar and of lawyers collectively should be in terms of welfare, security and happiness of the average citizen, irrespective of whether or not he retains a lawyer. The House of Delegates took immediate action to authorize and create a Special Committee recommended by President Hogan in defense of individual rights.

ADMINISTRATIVE LAW

Altogether the most vigorously debated topic before the House of Delegates and various of the sessions of Section and Committee forums was in the field of Administrative Law, as to which the Association's Committee presented another outstanding and useful report. The actions voted by the House at this meeting were in accord with the previous actions, and are to be regarded as furthering substantially the objectives of the earlier reports of the Committee on Administrative Law.

At this Cleveland meeting, the House of Delegates took a strong stand in behalf of extension of a non-political civil service, based on merit and efficiency, to the work and personnel of the staffs of the administrative agencies. The House approved the recommendation of measures designed to remove or lessen various types of political pressure upon administrative agencies, although the House declined to sustain its committee's recommendation that officers of political committees of the States, as distinguished from those in the Federal sphere, should be prohibited from practicing law before the administrative tribunals and agencies of the Federal Government. The principal concern manifest in the House and in such of the Section meetings as considered it, was that the fundamentals of a broad and adequate judicial review of judicial determination and legislative actions by administrative agencies of the Government should be fully preserved, to the end that the perils of arbitrary action by such agencies might be altogether prevented.

Significant features of the debate of the manifold legal problems which are grouped around the general subject of Administrative Law, was the action of the Association in approving the developing and functioning of an independent and self-governing organization of lawyers on the part of those who practice solely or principally before the administrative agencies of government. There was marked resistance to the idea that the lawyers who practice before these administrative agencies should not in any way be subjected to discipline, domination or control on the part of the agencies before whom they practice.

Dominant purposes of the 1938 meeting of the American Bar Association may fairly be said to have been to favor such improvements in the administration of justice and such vigilance in the maintenance and defense of the rights of individual citizens as will make the law an instrument of the welfare and security of people in general and will fortify and preserve the impartial determination of controversies by law-governed courts. In short, the whole program of recommended objectives of the Association, as embodied in the crystallization of opinion that took place at the 1938 meeting, may justly be said to be "in defense of democracy" and in furtherance of the idea that the organized Bar should advance and defend the security and well-being of the average citizen.

MAJOR LEGAL OBJECTIVES

Those who studied closely the trends and objectives developed, furthered by the discussions in the session of the Assembly and House and in many of the Section meetings and Committee forums, were of the opinion that perhaps unconsciously and without intent, a new and militant National Bar Program was taking form and gaining strength, around which the state and local bar associations and their members may join with American Bar Association members in concerted and concentrated efforts to achieve a few major objectives.

At the present juncture, the items for which any such new formulation of program would be made to appear include the following: cooperation with local and state bar associations and others in defense of rights vouchsafed to individuals by the Bill of Rights; improvements of the administration of justice in the state courts along lines recommended by this meeting; broadened support for legal aid work to promote justice for those who can not employ lawyers; protection to the public and the profession through enforcing ethical as well as educational standards for legal training and Bar admission; independence of the judiciary in the States, through adequate terms and salaries, security of tenure, and better methods of selection free from political interference; cooperation with the Department of Justice in behalf of its practical measures for law enforcement; insistence upon preserving the actualities of thorough-going judicial review in instances in which administrative bodies act judicially and pursuant to delegations of legislative powers, in the determination of private rights.

QUALIFICATIONS OF LAW SCHOOLS

After debate, the House of Delegates definitely accepted the Council of the Section of Legal Education as its delegates' agent to find the facts as to the qualifications of law schools for American Bar Association approval. All approvals by the Council are reported to the House and remain subject to its confirmation or rejection. Disapprovals or refusals to approve are not to be so reported, but any school affected may ask the House to revise adverse action. The resolution was opposed on the ground that it delegated to the Council of the Section a power to act, in the name and behalf of the Association, which could be vested in the Section subject only to the affirmative action of the House. A majority of the House accepted the following addition to the Association's standards as to the eligibility of a law school for Association approval: "It shall be a school which in the judgment of the Council of Legal Education and Admissions to the Bar possesses reasonably adequate facilities and maintains a sound educational policy; provided, however, that any decision of the Council in these respects shall be subject to review by the House of Delegates on the petition of any school adversely affected."

LEGAL ECONOMICS

An important event of the Cleveland meeting was the report of the Committee on the Economics of the legal profession, headed by Dean Lloyd K. Garrison of Wisconsin.

Transmitted with the report was a manual designed primarily for the use of state, local and junior bar associations that are willing to assist in developing the much-needed factual data as to the actual financial conditions of law practice in the various parts of the country. The Committee's recommendations for advancing its quest for essential information were approved; the 230-page manual will be recognized as one of the most important documents ever developed as to American lawyers.

Both the House and the Assembly debated, and then rejected by a decisive majority, proposals that had been filed to amend the constitution adopted in 1936 so as to change the method of nominating and electing officers and members of the Board of Governors. The purpose or effort of these amendments would have been to destroy the equality of the states in the nominating process, thus giving a greater weight to numerical preponderance in the larger cities and States. These proposals by members from Texas and Ohio were opposed as unfair to the smaller States and as destructive of the balanced functioning of the plan adopted at the Boston meeting. The amendments had few votes in either the Assembly or the House. The method of nominating members of the administrative committee known as the Board of Governors from among the members of the House, will be given further study before the 1939 annual meeting by a committee to be appointed for that purpose.

The availability of the "open forum," under which any member may offer a resolution on any subject within the Association's purposes, be heard on it by the Resolutions Committee, and have a vote on it in the Assembly after open debate, did not produce a large "crop" of resolutions this year. Several offerings led to short but spirited debate. In every instance, the recommendations of the Resolutions Committee, headed by Judge L. B. Day of the Supreme Court of Nebraska, were adopted by the Assembly.

The votes taken refused to create a special committee to study the public defender plan, which has been under consideration by the Committee on Legal Aid Work, so much stressed in its broad social implications by President Hogan; refused to authorize steps to reopen controversy as to the eligibility of Mr. Justice Black and his title to the office of Associate Justice of the Supreme Court; refused to adopt, as relating to the Government of a foreign country and outside the Association's chartered purposes, a resolution expressing sympathy with efforts in behalf of the "persecuted and proscribed" in Germany; and referred for the investigation and action of the Board of Governors several otherwise attractive proposals whose financial and other feasibility needed first to be ascertained.

The principal change made in the structure of the Association was the creation of a Section of Commercial Law. It was felt that the Association should offer a forum for the lawyers engaged predominantly in that branch of law, where they could discuss and deal with their problems under the impartial auspices of the national organization of the Bar and from the point of view or relationship to the profession as a whole. Especially in view of recent legislation in the field of commercial law, it was felt that its practitioners should not remain outside the scope of Association activity. For these purposes, it is expected that commercial lawyers will extensively become members of the American Bar Association, so as to join and take part in this Section.

The American Law Institute, an organization created for the improvement of the law and composed of members of the legal profession in the United States, seeks as stated in its charter, "to promote the clarification and simplification of the law and its better adaptation to social needs, to secure the better administration of justice, and to carry on scholarly and scientific legal work." The two important projects upon which the Institute has been engaged are (1) the restatement of the common law, and

(2) the drafting of model statutes in the field of criminal procedure and certain other selective fields of the law.

The object to be accomplished in restatement is the production of a clear, accurate statement of the common law in its various branches. In matters of private law the courts in each of our States, as every lawyer knows, are almost completely independent of the courts of other States. Each State may, if it so chooses, develop a body of law differing widely from a neighbor separated from it only by an imaginary line marking its boundary. The Federal courts create another separate judicial system with no necessary dependence upon state courts in the rules of law adopted. Except in a very limited class of cases, even the United States Supreme Court has no power to declare a rule of law which is compulsory upon the States and state courts. The cases in which the Supreme Court does have that power are not the ordinary disputes which arise between individuals, dealing with business transactions, property questions, and so on.

The inevitable result of this independence of the courts one from the other has been the growth of differing rules of law. This growth has become increasingly great as the course of time takes us further and further away from the source of our law, the common law of England. The result of local differences is necessarily to create uncertainty. If a given question has been answered one way in one State and another way in another, neither lawyer nor client can know what position a third state court may take upon the question. Even where there is not an actual disagreement as to a rule of law, there are frequent differences in use of language which themselves are important sources of confusion. It is not uncommon in legal language to use the same word, such as "right," in several different meanings. This in itself creates no difficulty if both user of the word and reader understand the sense in which the term is used. The danger is in jumping from one use to the other without being aware of the shift in meaning.

It is the purpose in making the Restatement to state the existing principles of the common law as they have been developed by the courts up to this time. Where a difference of opinion upon specific questions has arisen, the Institute necessarily is compelled to make a choice between the two positions. In making the choice it endeavors to state, as far as possible, the consensus of the best legal thought upon the subject. Great attention is given to the choice of terms and the use of terms. No effort is spared to use language as precisely as it is humanly possible to do.

The Restatement is not intended for adoption by legislatures as a code. The codification of substantive law into a series of legislative enactments is a development which has taken place in some European countries, and there is both in the United States and in England partial codification of certain portions of law in such uniform statutes as the Negotiable Instruments Law and the Uniform Sales Act. The purpose of the Restatement, however, is not codification or even a step to codification; it is intended to preserve the common law system of developing law through the judicial determination of cases.

To summarize, the purpose of the Restatement is as follows: (1) to state the existing common law as developed by the courts with such care and accuracy that courts and lawyers may rely upon the Restatement as a correct statement of the law as it now stands: (2) to express the principles of law thus stated with clarity and precision.

COUNTY AND RURAL GOVERNMENT

By Orren C. Hormell

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COUNTY GOVERNMENT CHANGES IN NORTH DAKOTA

A county manager constitutional amendment was submitted to the voters of North Dakota and rejected by them at the June primaries, 1938. The legislature, by limiting the provision to counties of less than 8,000 inhabitants, had in mind especially Sioux County which was in a deplorable financial condition. County officials throughout the State organized to oppose the amendment, as it appeared to be an opening wedge in a movement for elimination of political jobs and salaries.

The North Dakota Taxpayers Association (1938), however, has sponsored county reform as follows: "BE IT RESOLVED, That the 1939 legislative assembly be requested to adopt a resolution submitting a constitutional amendment which would permit the adoption of one of several types of county government by a majority vote of the people in any county in the state." The Association believed that: (1) a variety of forms should be permissible and the matter of the adoption of the form should be left to the voters of each individual county; (2) some check in the form of an audit or control should be left in the voters and county managers should not be permitted full and unlimited control of public funds; (3) the form of government should not be too rigidly included in a constitutional amendment, but some elasticity should be accorded to the legislature; (4) the legislature in passing permissive legislation should consider all modern types of government, including the possibility of home rule charters.

NORTH CAROLINA

The constitution of North Carolina was amended in November to empower the legislature to set up by legislation a department of justice which would act as an instrument of control over prosecutions conducted by county prosecuting attorneys.

NEW YORK

The New York State Constitutional Convention Committee presented voluminous data on county and town government and home rule in Vol. IV, *State and Local Government in New York,* and Vol. XI, *Problems Relating to Home Rule and Local Government.* The constitutional convention embodied the most important provisions relating to county and rural government in Articles VIII, Local Finance, and IX, Local Government. These articles were among those approved by the electorate Nov. 8. Space permits the consideration of only a few significant provisions. Every county, city, town, village and school district is required to make an annual appropriation for interest on indebtedness, and for payment of principal falling due, with certain specified exceptions. The 10% debt limit for counties and cities is extended to towns and villages. The limit is to be reduced to 9% for counties, towns and villages and to 8% in 1949. The constitutional tax limitation of 2% is to be extended to all cities and villages Jan. 1, 1944, except that taxes for education may be excluded from the 2% limit by legislative enactment with respect to villages and cities of not more than 100,000 population.

NEW JERSEY

The New Jersey legislature, 1938, enacted four laws based on the Princeton Local Government Survey (see The American Year Book 1937, p. 181). The laws provide, among other things, for a State Department of Local Government headed by a commissioner elected by the legislature for a term of five years, assisted by a board of four members appointed, for a like term, by the Governor with confirmation by the Senate. At least one of the members "must have had experience as a member of the governing body of a county." According to *Public Management,* June 1938, p. 178, the new board is vested with general powers to improve local finance administration. It may prescribe uniform accounting systems for local governments, prescribe systems of financial administration for counties and municipalities; promulgate rules and regulations governing the method, scope, and procedure of municipal audits; examine and audit the accounts of local sinking fund commissioners; and under certain circumstances may actually install accounting systems or conduct municipal audits. Counties and municipalities are required to furnish the board with regular reports and to conform to all regulations and procedures prescribed by the board. A special provision requires the governing bodies of all local governments to prepare capital budgets and submit them to the board for review and approval.

CITY-COUNTY CONSOLIDATION

The Citizens League of Cleveland, through its City-County Reorganization Committee, continued during 1938 a campaign of education for a city-county reorganization program for the City of Cleveland and the County of Cuyahoga. The program calls for unification of local government in a community, one consolidated local government instead of the present 103 cities, villages, school districts and townships in Cuyahoga county. The provisions were: (1) the transfer to the central city-county government of the functions of a county-wide nature; (2) the retention by the municipalities or boroughs of strictly local functions; (3) the schools and libraries to remain under separate boards and under independent and separate jurisdictions; and (4) the courts to remain under state control.

The Philadelphia Charter Commission published in September the essential features of a city-county charter to be introduced in the next session of the state legislature. "County government, as far as can be legally done, is unified with the city government." (See THE AMERICAN YEAR BOOK 1937, p. 178.) Some of the features affecting the county are: a City-County Council of 11 members elected at large by proportional representation to be created, the council to be the tax levying body for city and county, solely responsible to the people, and fountain head of all local authority; a trained manager to be selected by the council to "run all the business of the city and its business relations with the courts and county offices"; a merit personnel system to be extended to county employees with "the elimination of the influence of politics in the administrative service of the county, and the substitution for it of a career service of persons chosen and promoted on the basis of ability alone."

REORGANIZATION IN COUNTY AND TOWNSHIP GOVERNMENT

A modified manager plan was adopted Aug. 3 by the Los Angeles County Board of Supervisors. The position of a chief administrative officer was set up and authorized to exercise, among other things, supervision and control over departments, enforcement of rules and orders of the board, and supervision of expenditures and purchases. Col. Wayne Allen, former county purchasing agent, was appointed to the office and began service Sept. 8.

Under a state statute of Virginia, Chesterfield County established the office of executive secretary to the county board of supervisors. This official is authorized to conduct, under the supervision of the board, most of the administrative duties hitherto performed by the board.

The electors of Grady County, Georgia, Sept. 14, rejected the proposed county manager system and voted to retain the present county board form.

An outstanding example of savings through centralized purchasing appears in Fayette County, Pennsylvania, reported by the *National Municipal Review* as follows: "The almost unbelievable high percentage of savings in Fayette County has been due entirely to the change from a grossly inefficient system of buying in each department without regard to price and as various items were needed, to a system of centralized buying."

Counties in Mississippi may go far in the matter of encouraging industry by a decision of the state supreme court upholding a legislative act authorizing cities and counties to finance by bond issues the construction of industrial plants which may be leased to private persons. The county (or city) may not promote such a bond issue until approved by the state industrial commission.

From a survey made by the Kansas County Engineers' Association at least 13 Kansas counties have abandoned the township road system and have adopted the "county unit system" for the administration of roads.

The county executive (manager) of San Mateo County, California, inaugurated a simplified and centralized administrative procedure for the departments under him. In his office is set up a "'Service Division' which performs those services for the several departments and offices of the county which can be more economically operated with central personnel and units of equipment."

SERVICE EXPANSION

Ocean County, New Jersey, with some 450 miles of improved roads in the county road system made a courageous beginning in equipping roads with safety devices, including adequate stop signs, traffic signal devices and adequate lights at intersections, financed half and half by the State and by the county.

The Maine Emergency Finance Board (see The American Year Book 1937, p. 177) since its creation in 1937 has taken over the financial affairs of seven towns and plantations found to be in financial distress. The largest municipality taken over was Eastport of "Quoddy" fame. The town or plantation offices were declared vacant and a commissioner was appointed with full power to govern, under the supervision of the state board, until the financial credit of the town shall have been restored. In several instances young men have been appointed as commissioners or managers who have had experience as town managers in other Maine towns.

COUNTY PERSONNEL SYSTEMS

The County of Los Angeles has adopted an effective program of internships for young college graduates. In 1938 eight internes who completed their training under the county department of budget and research were "employed as administrative assistants in various county departments." Eight new internes were, at the same time, admitted to a similar course of training.

The Indiana County Personnel Committee, a body of the State Department of Public Welfare, is responsible for administering a merit system for the county welfare system. The State Bureau of Personnel is made responsible by the committee for administering examinations and preparing eligible lists for positions in the county welfare service, and for keeping service ratings of the welfare employees.

The annual report of the Personnel Board of Jefferson County, Alabama reveals some noteworthy achievements. The board not only conducted the required entrance and promotional examinations, but secured the adoption of their recommendation for the reorganization of a county purchasing department, and consolidation into an engineering department with responsible control of the following previously separate agencies: the county convict department, the highway department, and the county garage. The position of county purchasing agent was filled by a competitive examination held March 16, 1938. Great savings were experienced under the new system even during the first half year of its existence.

An excellent report on the functions of a county personnel director and his relation to a civil service board was made by a special committee on "classification and standardization of county positions," to the Finance

Committee of the County at Buffalo, N.Y., on March 11, 1938. It recommended that the director should be an administrative coordinator whose duties would be "to determine by careful study and conferences with department heads just what positions are necessary, what changes should be made, what persons can be borrowed from one department by another during slack seasons, and all other general and specific personnel matters."

REGIONAL AND LOCAL PLANNING AND ZONING

Under the guidance of the Extension Division of Virginia Polytechnic Institute, county boards of agriculture have been instituted in 89 Virginia counties, with advisory function. According to Prof. Paul W. Wager, "these local bodies of representative citizens have developed into what might be considered unofficial county planning boards." According to the *American Planning and Civic Annual,* 1938, pp. 231-2, Virginia enacted legislation applying zoning to rural conditions and authorized "the appointment of an administrative officer to enforce the enacted regulations."

The spirit of home rule in New York seems to be a check upon county planning and zoning. The optional New York County Planning Act of June 5, 1936 has not been adopted by any county. According to E. M. Bassett in *The Master Plan,* 1938, "towns, villages and cities of the county will probably refuse to surrender their zoning power to a county planning commission and a board of supervisors as is contemplated in this alternative law. It has always been considered that if each community can do its own zoning it will be better suited than if zoning is imposed on it by a county . . . the success of zoning in this country has been largely due to home rule."

County zoning in California under the California Planning Act was given a favorable start during the year in the adoption by Marin County of a comprehensive county zoning ordinance. Several other California counties, including Santa Clara, Monterey, San Mateo, Kern, and Santa Barbara, have made use of the county zoning authority to further roadside beautification and promote safety along the main California highways. A highway zoning ordinance of Monterey County was upheld by the county judge who applied the liberal view which supports community planning in opposition to the property claims of the abutting private owners. The decision attempts to establish community interests as paramount over private interests.

The Texas Planning Board reports that 40 counties in that State have established county planning boards. These boards cooperate with the state planning board and with city planning and zoning agencies and housing authorities to promote "careful planning for the future of Texas."

COUNTY SURVEYS

Los Angeles County Department of Budget and Research has made a noteworthy survey of the Department of Charities of that county. Special emphasis was made on discovering more efficient methods in case work and "new and specialized intake procedures for medical institutions."

An excellent survey of county and city-county government is that made by the consultant service of the National Municipal League for the City of Atlanta and the County of Fulton, Georgia. After giving a thorough description and critical analysis of the governmental system, the report submits a proposed constitutional amendment providing home rule for Fulton County and statutory provisions for a metropolitan planning commission, and reorganization, consolidation and unification of the city and county governmental set-up.

The Taxpayers' Report Upon the Second Annual Statewide Survey of County, City and Town Government in Tennessee, April 1, 1938, presents a striking picture of the "outworn system or structure of county government" in that State. "County government in Tennessee," it reports, "consists of 95 separate and widely scattered units of varying methods, and observance of methods, of administrative and financial technique in vogue. Few of these units maintain an accounting system. Few have an acceptable audit. None of them renders a report to a central state agency. Yet, expenditures of the 95 counties . . . 1937 account for 47% of the total expenditure of all units of government within the state of Tennessee." The Taxpayers' Report outlines proposed reforms in organization, budgeting, auditing, accounting, reporting, assessing of property, and purchasing.

A survey of outstanding merit was published by the Committee on Assessment Organization and Personnel of the National Association of Assessing Officers on *Primary Local Assessment Districts.* The survey shows 35 States using the county as primary local assessment districts, six mixed county and township districts, and 13 township-municipal districts. After critically analyzing the present system the committee presented six criteria for setting up of adequate assessing districts as follows: (1) "assessment districts should ordinarily be coterminous with the political subdivision performing the assessment function;" . . . (2) the political subdivision performing the assessment function should be one to which other important governmental functions have been assigned and which finances such functions in large measure out of property tax receipts; (3) the political subdivision serving as an assessment district should have sufficient resources to afford adequate assessment machinery . . . ; (4) the assessment district should provide an assessment task large enough to warrant the employment of one full-time assessor and at least one full-time assistant; (5) the assessment district should provide an assessment task of sufficient size to realize the economies of large-scale operation; (6) the district should not be so large that the flexibility required to adapt the assessment process to special cases is lost."

Among the practical reforms suggested, two proposals affect especially the county and rural governments. (a) "Two or more political subdivisions performing assessment functions may be fully consolidated. This procedure is particularly recommended for the small towns of the New England states and the small counties of the Southern and Rocky Mountain states." . . . (b) "The whole structure of local government may be reorganized to eliminate in large measure the overlapping of local government. In particular it is recommended that jurisdiction of counties over cities having population of 100,000 and over be removed and that such cities be made coordinate with counties both for assessment purposes and for all other governmental activities."

PERIODICAL PUBLICATIONS

State Government
American Legislators' Association, Drexel Ave. and 58th Street, Chicago.

National County
American County Association, Hotel La Salle, Chicago.

Public Works
310 East 41st Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Legislator's Assn., Drexel Avenue and 58th St., Chicago, Ill.

Civil Service Forum, 2 Lafayette Street, New York City.

National Assn. for Constitutional Government, 716 Colorado Bldg., Washington, D.C.

National Civil Service Reform League, 521 Fifth Ave., New York City.

National Municipal League, 309 E. 34th St., New York City.

The Council of State Governments, 850 East 58th Street, Chicago, Ill.

DIVISION V
MUNICIPAL GOVERNMENT

NEW YORK CITY AFFAIRS

By Wallace S. Sayre

Civil Service Commissioner, New York City

On Jan. 1, 1938 Mayor Fiorello H. LaGuardia began his second term, under the new charter which was adopted in November, 1936. As a result of the elections of 1937, the Mayor began his second term with a Board of Estimate controlled by groups friendly to the Administration, with only the Borough President of the Bronx representing the formerly dominant Democratic party organization. The new year also saw inducted into office the first City Council to be elected by proportional representation.

LaGuardia's smooth-running administrative machine continued to function without much change. Cabinet shifts centered around the staffing of new departments created by the new charter: the City Planning Commission, of which Rexford G. Tugwell was named chairman, the Public Works Department, of which General Edwin Markham was named commissioner; and the Department of Finance to head which the Mayor appointed Almerindo Portfolio as treasurer.

COUNCIL CONTROL

The most exciting political activities of the first half of 1938 centered around the struggle for control of the new City Council. Proportional representation reduced previous Tammany steamroller majorities, but unfortunately for a beginning the forces in the Council were for many months tied, and parliamentary technicalities made it impossible for the president of the Council to break the tie on any important question. Throughout the major part of the year, each side of the chamber claimed to be the majority but eventually the Democratic organization succeeded in winning, both nominally and actually, control of the officers and committees of the Council. At the year end, the Fusion coalition showed a definite reduction in strength and was devoting its main energies to paving the way for a more successful electoral contest in the 1939 election rather than to the capture of control of the Council.

THE MAYOR'S OBJECTIVES AND ACCOMPLISHMENT

Mayor LaGuardia continued his energetic administration of city affairs and during the year brought to fruition many of his major objectives. Two accomplishments were especially close to the Mayor's heart: first, the old United States Post Office building which had long disfigured the City Hall Park area was surrendered by the Federal Government for demolition which was well advanced as the year ended; second, the long discussed razing of the Sixth Avenue Elevated line was legally accomplished during the closing days of 1938 and actual demolition began before the year was out. In other fields of major policy, the Mayor won constitutional provision for transit unification in the new New York State constitution, as well as highly significant constitutional provisions for the continuation of the housing program he had begun with the aid of Federal funds. Transit unification and wide-scale public low-cost housing in New York City were made practically accomplished facts by the end of 1938.

CITY FINANCES

The Comptroller's office and the new Department of Finance, reorganized under the provisions of the new charter, made important progress during the year toward more efficient financial administration for New York City. The Comptroller in general assumed power over general fiscal policy and particularly over auditing activities, while the Department of Finance became the tax-collecting and treasury agency of the reorganized city government. At the end of 1938 the combined departments reported the following comparative fiscal statistics for the city:

TAX LEVIES AND COLLECTIONS

	1936	1937	1938
Assessed valuation	$16,678,763,548.00	$16,599,695,194.00	$16,650,297,794.00
Real estate tax levy	453,546,218.91	460,246,375.76	490,675,929.54
Current tax collections	398,429,761.72	410,096,992.97	439,759,327.09
Arrears tax collections	68,502,611.50	45,178,175.08	38,700,263.44
City's share of state taxes	32,543,404.99	40,531,432.58	39,097,567.41
Miscellaneous city revenues	76,365,340.66	72,804,925.32	72,759,999.35
Emergency tax collections	72,523,378.26	71,761,738.71	70,511,527.84
Certificates outstanding against taxes	80,350,000.00	39,797,000.00	44,000,000.00
Uncollected taxes pledged	166,126,144.00	47,035,080.00	49,070,064.00

CITY PLANNING

The city's first planning commission of adequate powers took office on January 1, 1938. In its first year, it began to establish the orderly processes of city planning for the first time in New York City. Its major activities centered around the most comprehensive amendments since the city was originally zoned in 1916. The preparation of the first capital budget and capital program and the handling of important references from the Board of Estimate, including such major improvements as the Circumferential Parkway, Atlantic Avenue grade crossings, and the planning of the East River and Harlem River Drives.

CITY PURCHASING

During 1938 the Department of Purchase introduced further refinement in its program of centralized purchasing. A stock index, listing items carried at the General Drug Storehouse, was compiled and distributed. Hundreds of obsolete specifications were repealed by the Board of Estimate on recommendation of the Board of Standardization. For the first time in the history of New York City a contract for electric light bulbs was prepared by the Department, which was used by all city agencies, including the educational institutions.

Acting in part on the suggestion of the Department of Purchase, the Board of Estimate in February abolished performance bonds on supply contracts. The new charter provides that contracts are to be awarded to the lowest responsible bidder, so that at the suggestion of the Department the Board of Estimate created a board of responsibility consisting of the commissioner of Purchase, the Comptroller, and the Corporation Counsel, to pass upon the qualifications of bidders. To lower the cost of perishable food supplies and to permit the prompt purchase of medical and surgical supplies, the Board of Estimate authorized the procurement of such items after a three-day advertisement in the *City Record* instead of the customary ten days, with a further provision that purchase orders can be issued against the accepted bids in lieu of the time-consuming execution of formal contracts.

A new one-story storehouse, containing approximately 87,000 square feet of storage space, the entire interior illuminated with natural light, was completed as a WPA project. Construction was begun on a six-story building with 100,000 square feet of storage space to each floor.

LEGAL MATTERS

The Corporation Counsel in 1938 reported the successful acquisition of 15 square blocks for the housing project at Red Hook, and 15 acres for the Queensbridge Housing project. The department was also victorious in the legal battle for the removal of the Sixth Avenue Elevated line. The volume of litigation in 1938 was about the same as that of 1937, the largest single item of litigation being the disposition of the Brooklyn ash removal claims of $3,756,000 and the settlement for principal and interest of $400,000.

PERSONNEL ADMINISTRATION

The Municipal Civil Service Commission continued development of its program for a public career service by extending its basic classification program to important areas of the city service, notably the engineering positions, skilled labor positions and Department of Hospitals personnel. The Commission also created a new administrative service in line with its program of extending the merit system upward to important administrative posts. Examinations were raised to higher educational levels and improved technically, while promotion areas were widened to allow greater career opportunities for the most efficient city employees. During the year the Commission completed its examining program for the several thousand employees in the Relief Administration, a program in which more than 50,000 candidates were tested. The Commission also began the establishment of a basic training program for city employees, and cooperated with the educational institutions of the city in the expansion of pre-entry training programs.

PUBLIC WORKS

Under the new charter, 1938 brought the establishment of the first centralized city-wide Public Works Department. The construction and maintenance of public buildings and of bridges and the administration of sewage disposal constituted the three major activities of the new Department. The major accomplishments of the Department during the year, aside from the difficult and time-consuming task of building a new department out of the several predecessor departments, were the beginning of design and construction for the new Criminal Courts building in Manhattan, the new Hunter College building, and the Triborough Hospital.

PUBLIC RELIEF

Home Relief for New York City's needy unemployed became a regular and permanent function of city government in 1938. After taking over the Home Relief functions of the discontinued Emergency Relief Bureau on Jan. 1, 1938, the Department of Welfare and the Civil Service Commission proceeded to transfer the Home Relief positions into competitive civil service positions. At the end of the year 4,295 jobs, or 44 per cent of the total number of home relief positions, were under civil service. It is anticipated that 1939 will see this change completed. The Department consolidated those divisions performing like functions for the Emergency Relief Bureau and the Department of Welfare prior to Jan. 1, 1938, and began to administer all forms of public assistance, except Aid to Dependent Children (Board of Child Welfare), on an integrated and permanent basis. At the end of the year the Department was providing aid to the following categories:

Home Relief	— 148,788 cases,	428,515 persons
Veterans	— 10,554 cases,	38,628 persons
Non-settled	— 3,846 cases,	9,923 persons
Homeless	— 11,056 cases,	11,056 persons
Old Age	— 49,410 cases,	49,410 persons
Blind	— 1,425 cases,	1,425 persons
Children	— 23,500 cases,	23,500 persons
Total	— 248,579 cases,	562,457 persons

The Department's estimated expenditures during 1938 totalled $133,266,085.

HEALTH

Health Commissioner Rice reported for 1938 the best health record in the history of the city, the best previous record being that of 1935. The excellent health record was due to marked reduction in infant mortality, reduction of deaths of mothers in childbirth, as well as reduction in diphtheria, typhoid, pneumonia and tuberculosis deaths. The district health center program was further extended during the year with the establishment of the Kips Bay Health and Teaching Center.

HOSPITALS

During 1938 the Hospital Department completed the construction of the Welfare Hospital on Welfare Island, a new institution for the chronically ill. Additional tuberculosis beds were provided at Bellevue Hospital and the Department secured authorization for ten new dispensaries and reported a new low mortality rate.

HOUSING

During 1938 the New York City Housing Authority began two new public low-cost housing projects. The Red Hook project, located in the Red Hook section of Brooklyn, will contain 2,541 apartments and a total of 10,650 rooms. The Queensbridge project, located in the Queensbridge section of Queens, will contain 3,161 apartments and a total of 12,967 rooms. Other similar projects are being planned for the future.

The new consolidated Department of Housing and Buildings completed its first year of existence. This consolidation effected a saving of time and money for all concerned, making possible the establishing of city-wide uniform rules and regulations of all matters concerning the Department, and has resulted in a uniform interpretation of the laws relating to construction and buildings in all five boroughs. Applications and permit forms were standardized and duplicate inspection obviated. The estimated cost of new building construction in 1938 showed an increase of $38,273,742 over that for 1937.

The Division of Housing continued the work of the former Tenement House Department, together with the additional duties imposed by the new charter. The cycle survey on Class A multiple dwellings was practically completed and the cycle survey on Class B multiple dwellings commenced. This means that all but the remaining few Class A multiple dwellings in all five boroughs have been entered and inspected. All violations of the Multiple Dwelling Law observed were recorded. During this period 5,372 additional multiple dwellings were equipped with legal type fire-escapes, and the public halls were fire-retarded in 5,240 multiple dwellings. The cellar ceilings were fire-retarded in 7,362 multiple dwellings; 546 bulkheads were constructed, 4,099 additional toilets added, and 17,795 toilets made waterproof. Over $400,000 has been spent by this division out of monies furnished by the city of New York, in removing violations under the amendment to the Multiple Dwelling Law generally referred to as the Repair Lien Law.

PARKS

New York City's spread of park facilities continued to expand during 1938 under the program of Commissioner Moses. At the end of the year there were 20,246 acres of park land inclusive of parkways, 378 playgrounds, 12 outdoor swimming pools with three others under construction, nine indoor swimming pools, all of which are being renovated, and one floating swimming pool at 93rd street and the Hudson River, and many other recreational areas more than trebling the recreational facilities and areas available in 1934. The construction of arterial parkways continued with the erection of the upper deck of the Henry Hudson Bridge to provide one-way traffic in each direction; the completion of the Henry Hudson Parkway from 72nd Street to the city line; the start of the great 33-mile Circumferential Parkway running from Owl's Head Park in Brooklyn to the Bronx-Whitestone Bridge in Queens, and the establishment of the New York City Parkway Authority which is converting one and a half miles of beach slum at Rockaway into a model seaside park, and providing a new beach and widened parkway to replace the irksome Cross Bay Boulevard bottle-neck at the entrance to the Rockaways. Completion of the basic improvements in Flushing Meadow Park, Queens, continued to prepare it for the site of the 1939 World's Fair.

DEPARTMENT OF CORRECTION

The Department of Correction during 1938 continued development of its medical service and classification service at Rikers Island Prison. The most striking advance was in educational work. A night school and a system of intramural correspondence courses increased the voluntary enrollment to more than 1,200 men out of the population of 2,800. Work was actually begun during the year on the foundation for a new prison to replace the antiquated Tombs. A Director of Placement was appointed in the Department, with the special function of finding jobs for boys who receive vocational training at the New York State Reformatory.

PUBLIC SAFETY

The year showed a continuance of the policy of retiring all members of the Police force who had reached the age of 63. Traffic problems in congested areas were given continued attention with the result that there were established in 1938 18 cross-town streets (in addition to 12 established in 1937) on which parking was banned; the establishment of one-way streets and avenues in the Borough of Queens; also the establishment of 24-hour service on traffic signal control lights.

The Department during 1938 purchased a large 8-story building adjacent to Headquarters for use as an annex to accommodate the increasing squads and bureaus. In this building will be located the Police Academy and the latest and most modern scientific laboratory operated by a police department. This laboratory at present is making thousands of analyses in connection with crime yearly. It is manned by expert technicians and members of the detective bureau. Obsolete equipment in the Criminal Identification Bureau has been replaced in a number of instances with the latest scientific developments in photography and identification.

The Engineering Bureau has developed a new type directional sign for use on parkways. This Bureau, in conjunction with the traffic division, has conducted extensive studies in traffic plans and has aided the engineers of other departments in planning new roads and widening of present streets, particularly those which will be heavily travelled during the Worlds Fair.

The Safety Bureau continued in its intensive program to reduce the number of accidents on the highways. The year 1938 brought the lowest mark in fatal accidents in many years.

The Fire Department continued the establishment of the Three-Platoon System which by law will be in effect throughout the Department at the end of 1939. The outstanding piece of fire apparatus added was the "Fire Fighter," a Diesel engine fireboat costing approximately $1,000,000 and placed in service at the Battery. Particular attention was paid to the establishment of two-way radio. This system has been installed in all of the fireboats and will be extended eventually to all chief officers' cars and to firehouses. The fire loss for the year 1938 was $7,878,355 as compared with $5,978,267 in 1937.

CITY POLITICS

BY HOWARD P. JONES

EXECUTIVE DIRECTOR, NATIONAL MUNICIPAL LEAGUE

POLITICAL INTERPLAY AND GOVERNMENT REFORM

Although it was an off year so far as municipal elections were concerned, in many of the cities of the United States there was a remarkable amount of political interplay whose underlying significance was almost invariably a desire for fundamental governmental reform on the part of substantial groups in the community. Grave charges of irregularities on the part of public officials, law suits, and scandalous disclosures of many kinds, all pointed to a fulfilment of the promises of the previous year when a renaissance of the civic spirit first began to be clearly apparent.

NEW YORK CITY

New York City's place on the 1938 scene was manifold. Sensational to the last degree were the activities of Thomas E. Dewey, who had already made headlines as the "racket-busting" special prosecutor of the previous year. Mr. Dewey in his first year as district attorney undertook the prosecution of James J. Hines, powerful Tammany district leader, who was accused of implication in the Harlem numbers racket. Declared a mistrial by Justice Pecora because of a technicality, the proceedings were abruptly terminated after several weeks, and had to be begun all over again in January, 1939. Meanwhile District Attorney Dewey made a sensational race for the governorship of New York State, which he lost to Herbert H. Lehman by a small margin.

Another special prosecutor began to make headlines in New York when John H. Amen was specially appointed by Governor Lehman to investigate lax law enforcement and official corruption in Kings County, otherwise known as Brooklyn. Mr. Amen's work was just beginning to get under way at the end of 1938, but the expectation was that there would imminently be colorful disclosures regarding the county officials, many of whom are members of the Tammany Hall group.

In New York City attention was also focussed on the new City Council in its first year of operation under the new city charter. Previously, New York's legislative body had been a board of aldermen of 65 members, elected by the regular plurality system from aldermanic districts. The 1938 council, in contrast, had been elected by the system of proportional representation on a fixed quota basis from five large districts, respectively comprising each of the five boroughs. Since New York City is the largest city in the United States to have adopted the proportional representation method of electing a legislative body, there was lively interest in the outcome.

The November, 1937 elections had resulted in a 26-member council, composed of 13 Democrats and 13 in the coalition group which supports Mayor LaGuardia. Hence the Council found itself deadlocked from the start. The absence from the first meeting of one of the fusion councilmen, who had departed for Ireland to be married, plus a disagreement over the interpretation of the new charter, so snarled the vote that the Council's organization remained in doubt until the fall of the year, when by court decision the disputed post of vice-chairman fell to John Cashmore, Democrat. The close party division also resulted in stalemate on legislative matters. Aside from the enactment of supplementary taxes for relief financing, council activities in the first year were almost entirely of a minor character. There was a brief flare-up in December when the coalition group with the aid of Mayor LaGuardia forced consideration of bills which would have reorganized government of the five counties within

New York City, at the same time abolishing certain county offices. To the chagrin of the coalitionists, the bills were killed after a dramatic all-night session which resulted in the collapse of a stenographer from exhaustion.

While the intra-council battle was going on, proportional representation became a major issue in another quarter. New York State's periodic Constitutional Convention took place during the spring and summer of the year, and at the last minute, reputedly by a deal between upstate Republicans and New York City Democrats, an amendment was rushed through outlawing the use of proportional representation in all municipalities of the State. Called a violation of the right of municipal home rule, the amendment was under fire from many quarters and was beaten by the voters in November.

YONKERS, NEW YORK

Proportional representation scored another victory at the same election, when Yonkers, industrial-suburban community of 150,000 just outside New York City, voted to adopt a new city charter embodying the city manager form of government and proportional representation, which will go into effect January 1, 1940. It was the city's fourth attempt to drive through the charter.

CAMBRIDGE. MASS.

At the same time new "Plan E" charters, also embodying the city manager plan and proportional representation, were voted down by narrow margins in Cambridge, Quincy, and Northampton, Mass. In Cambridge the charter campaign was marked by a battle between town and gown, with the anti-charter city council threatening to force Harvard University to secede from the city. Dean James M. Landis of the Harvard Law School was the leader of the charter forces. The brush ended in opera bouffe antics on the part of Harvard students.

CITIES ADOPTING CITY MANAGER CHARTERS

Although in the November elections a total of ten cities voted on the question of adopting city manager form charters, a total of ten cities besides Yonkers adopted the city manager plan at various times during the year. These were Harlingen, Tex.; Bendix, N. J.; Dover, Foxcroft, and Milo, Me.; Tappahannock and Lexington, Va.; Tarentum, Boyertown, and Ephrata, Penn.; and Forest Grove, Ore. This seems a clear indication that fundamental governmental reform, slowed up by the depression, has gained greatly increased impetus in the past twelve-month period, not only in the nation's largest cities where sensational political activities are more usual, but also in the smaller communities, where, in a sense, lies the pulse-beat of American municipal life.

WATERBURY, CONN.

The investigation in Waterbury, Conn., which resulted in the indictment, among other prominent political figures, of Frank T. Hayes who is mayor of the city and also lieutenant-governor of the State, led to the formation of the Waterbury Good Government Association which is seeking adoption of the council-manager form of government with proportional representation. Mayor Hayes and his chief officers were accused of a conspiracy which cost the city more than $1,000,000. The Good Government Association, which has a membership of 10,000 persons—one-tenth of the city's population—carried its charter campaign with renewed vigor into 1939.

CHICAGO

A charter campaign also underlay desperate efforts on the part of political organizations in Chicago to draft strong mayoralty candidates for 1939. Civic groups were attempting to secure permission from the state legislature for a city manager charter for the city whose political reputation has suffered in recent years due to the strong grip of the Kelly-Nash political machine. It was finally decided that State's Attorney Thomas Courtney would opose Mayor Kelly in the next election. William Hale ("Big Bill, the Builder") Thompson, former mayor, who once based a previous campaign partly on the desirability of "punching the snoot" of the King of England, threw his own hat in the ring and started his campaign off to the tune of "Happy Days are Here Again."

PHILADELPHIA

In Philadelphia municipal financial difficulties made charter revision proponents increase their efforts. Draft of the proposed charter, embodying the council-manager form of government and proportional representation, was completed during the year and is ready for presentation to the 1939 state legislature, which must ratify it before the city can act. Passage of Philadelphia's city budget by the Council was long delayed because of reluctance of legislators to increase the tax rate to provide for massed deficits of other years. The situation was so difficult that some of the regular political leaders were impelled to announce their support of the charter change which had been urged for some years by various non-partisan civic groups. At the same time, Mayor S. Davis Wilson was indicted on charges of misbehavior in office, failure to suppress gambling, and unlawful demotion of policemen and firemen, but the indictment was eventually thrown out of court.

LOS ANGELES

In Los Angeles, a vigorously fought recall election ousted Mayor Frank L. Shaw and put in his place Judge Fletcher Bowron who promptly demanded wholesale resignations from the members of various city commissions. It was charged that irregularities had reached such a point that firemen were paying a fixed rate for admission and promotion in the department.

JERSEY CITY

Jersey City's Mayor Hague took the national spot-light in the now famous "egging" of Norman Thomas who attempted to make a street-corner speech in the city on the Hudson. Thomas's "deportation" by Hague police and similar brushes with the CIO started a series of injunction suits in Federal courts whereby Hague was partly check-mated in his alleged interference with the right to move about freely in Jersey City, to distribute leaflets and circulars, to address public meetings in the parks, and to display placards. It is still not certain just how far Mayor Hague will go in restricting future liberal meetings in Jersey City, and it may be supposed that some follow-up of this complicated civil liberties question will occur in 1939.

FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

By Clinton Rogers Woodruff

Honorary Secretary, National Municipal League

ANNIVERSARY OF CITY MANAGER GOVERNMENT

City manager government observed its thirtieth birthday in 1938. The movement began in Staunton, Va. where an ordinance was passed in January, 1908 to hire a "general manager." The first large city to attempt the new governmental experiment was Dayton, O., following the devastating flood in the spring of 1913 when the incumbent government failed to function effectively. Dayton and Springfield installed the plan on Jan. 1, 1914. Before the year was over, eight city managers met in Springfield for the first conference of the City Managers' Association, later renamed the International City Managers' Association.

Acceptance of the new form of government during the following years was widespread among cities concerned with adopting new charters. In 1911–1920, of all the charters adopted in 11 home-rule States. 35 per cent were of the council-manager type. In the next decade this percentage increased to 71. Council-manager municipalities in the United States range in size from Polk City, Fla., with a population of 222, to Cincinnati, O. with a population of 451,160. In addition to the cities and counties under an "approved" form of the manager plan, there are 155 other cities and 36 counties that have some modification of it. San Francisco is the largest city that might be considered as having a modified form of the manager plan. An "approved" council-manager municipality, according to the I.C.M.A., must appoint the manager by an elected council: must make him solely responsible to the council for administrative affairs, and must give him broad appointment and removal powers over administrative officers subject to civil service regulations.

GROWTH OF COUNCIL-MANAGER PLAN

The council-manager plan inaugurated in Sumter, South Carolina, in 1913, was immediately adopted by a few other small cities but did not receive much publicity until it was made effective on Jan. 1, 1914 in Dayton and Springfield, O. Since 1913 an average of about 19 cities and counties have adopted the manager plan each year. More than 11,000,000 people now live in cities operating under that plan. On Oct. 1, 1938 there were 472 council-manager cities and seven counties. The cities include twenty-one cities outside the United States: sixteen in Canada, four in Ireland, and one in Puerto Rico.

One in every five cities of over 10,000 population in the United States is now operating under council-manager government. Of the 93 cities with over 100,000 inhabitants, 17 or 18.3 per cent are council-manager cities. In the population group of 50,000 to 100,000 the ratio is slightly higher than one in four. Of all the cities which have adopted the plan in the past eight years, slightly over one-half had been operating under the mayor-council plan, about one-fourth under the commission plan, and the remainder under the town meeting or other form.

Out of 6,230 cities in the United States with more than 1,000 population, 2,170 or 35 per cent can not adopt manager charters without special action of state legislatures. There are only eight States that have neither statutory nor constitutional provisions under which cities may adopt the council-manager plan without first securing specific legislative consent. Those States are Delaware, Florida, Georgia, Idaho, Indiana, Maine, Mississippi and Rhode Island. However, certain cities in Delaware, Florida, Georgia and Maine have been able to secure special council-manager charters from their respective legislatures.

The States in which certain cities, under varying limitations, can adopt the manager plan (none have done so) are Alabama, Louisiana, Nevada, New Hampshire, Washington and Wyoming.

The other 4,060 cities with 1,000 or more inhabitants, 65 per cent of the total, may adopt the council-manager plan without securing special charters from the state legislature, *i.e.*, either under constitutional home rule provisions, by adopting provisions of an optional charter law, or by adopting the plan by ordinance under permissive legislation. Cities that can adopt the manager plan in this way are found in 40 States; in some States only cities within certain population limits may adopt the provisions of the state enabling act; in others practically all cities may draft and adopt their own charters under home rule, and in a few States the cities have a choice between drafting their own charters and adopting the provisions of a state enabling act.

CODE OF ETHICS FOR COUNCIL-MANAGER CITIES

Adoption of a revised code of ethics for heads of the 457 council-manager cities throughout the country has been announced by the International City Managers' Association. The new code, approved at the annual meeting of the Association in October, supersedes the original rules of professional conduct established for city managers in 1924. Emphasizing that the city manager "is in no sense a political leader," the code points out that it is the duty of the manager "to provide the council with information and advice without encouraging passive acceptance of his recommendations." It also states that the council, as the elected representative of the people, "is entitled to the credit for the fulfillment of municipal policies." Under the code the council would also defend policies which may be criticized.

The city manager, in order to preserve his integrity as a professional administrator, must resist any encroachment on his control of personnel, insist on the exercise of his own judgment in accomplishing council policies, and deal frankly with the council as a unit rather than secretly with its individual members. In his control of city personnel, the code states, the manager should handle all questions on a basis of merit. "Political, religious and racial considerations should carry no weight in appointment, salary increases, promotions or discipline in the municipal service."

The code provides that no city manager may seek or accept a positon unless he is fully in accord with the principles of council-manager government and unless he is confident that he is qualified to serve under these principles as a city manager to the advantage of the community. It states that "the city manager must keep the community informed on municipal affairs but keep himself in the background by emphasizing the importance of the facts."

DANGERS OF STATE CONTROL

After declaring that the domination of local affairs by state governments through the use of compulsion rather than educational methods has frequently resulted in increasing costs, impairing efficiency through administrative rigidity, and other undesirable consequences at its 1938 convention, the American Municipal Association added that each state league of municipalities and the member municipalities thereof should be urged to inform citizens and state officials in vigorous fashion of the dangers arising from the tendency to centralize at state capitals control over matters which can be administered by local officials under the direct supervision of the citizens of their respective communities.

BETTER CITY GOVERNMENT

The September 1938 issue of the *Annals* of the American Academy of Political and Social Science was devoted to a "discussion of the goals and achievements of municipal governments in the United States" under the title "Better City Government." The Academy for many decades has followed developments in municipal legislation and in the past has published the best studies on municipal problems and city life, particularly during the years 1904 to 1916. The new issue is edited by Prof. Roy V. Peel of New York University who also contributes the introduction. Many of the articles were prepared by college professors, municipal association executives and researchers, and some by city officials. All aspects of municipal government are presented in a well rounded whole. Principles and theories are discussed as well as practical application of them. Testing the functions of government, agencies of citizen interest, its relation to Federal agencies, political parties and prospects for a science of municipal government, are well considered.

NATIONAL MUNICIPAL LEAGUE MEETING

The 44th annual meeting of the National Municipal League was held in Baltimore Nov. 28–30 under the presidency of Dr. C. A. Dykstra, president of the University of Wisconsin. As in former years, the Proportional Representation League and the Association of Civic Secretaries met at the same time and place, as did the National Conference on Government. A round table session on public opinion and government with participants who were leaders in the press, the movies, the radio, and education, a banquet at which the principal speakers made concrete suggestions looking toward reaching principles of democracy, a movie session which illustrated the making of public opinion in one of our newest publicity and entertainment media, all these showed that the conference on government is more than ever a force with implications not only for the past of municipal government but also for its future.

COOPERATION AMONG CITIES

The Urbanism Committee of the National Resources Committee pointed out in a report made during 1938 that, until recently, urban governments have not utilized the potential advantages obtainable through continuous cooperation among cities. Promising opportunities for improving the quality and reducing the unit cost of services rendered by urban government are now available through the activities being developed by state leagues of municipalities, by national municipal associations, mayors' conferences, and by professional organizations of municipal officials, and in the cooperative effort now being made by these organizations toward the improvement of public administrative management and the raising of professional standards in public administration. The activities of these organizations relate to such matters as personnel, finance and taxation, purchasing, planning, welfare, police, fire, public works and utilities, municipal research, housing, education and recreation. Because of the significant services now being made available to urban and other local governments by various state and national associations of municipalities and of municipal officials, the Committee urged governmental authorities on all levels, Federal, state and local, to make the greatest possible use of the facilities of these associations.

POLICE

The Federal Communications Commission has general jurisdiction over the operation of police radio intercommunication. In 1938 it authorized 399 municipal police stations, bringing the total up to 694; 86 state police, increasing the number to 210; 42 zone police, making 55 now authorized, and one for interzone police, making the total 21. The large number (399) of municipal stations was a direct result of the adoption of new emergency service rules and regulations by the Commission on June 22. These rules provided for the regular assignment of 29 frequencies in the 30,000 to 40,000 kilocycle band for municipal and state police use. Applications specifying these frequencies were acceptable after July 1, 1938 and by October 1, 1938 the majority of experimental police stations which had been operating on four ultra high frequencies, were given a regular municipal police status and had been reassigned the new frequencies. As an indication of the size of the task, it is noted that this change involved a total of 2,800 mobile police units in addition to numerous fixed police transmitters.

Aside from the adoption of the new rules and regulations with the addition of new frequencies, the use of radio by various police agencies has steadily grown and the expectations of the Commission as to its value have been fully realized.

According to Maurice B. O'Neil of New Orleans, President, Associated Police, today there is an inter-city radio telegraph net that covers half of the United States and more than half of its population. Through this means, the police can dispatch complete messages of police emergencies that will adequately describe wanted persons and stolen property. Through the employment of radio they can cut off the escape of a criminal.

Successful tests have been carried out each evening with the Police Department of Havana, Cuba, leading to regular schedules. Any part of the Island can be reached through the Cuban network. Similar tests will soon be carried on with Mexico City by special permission of the Federal Communications Commission.

A *Communicating Directory* of the Associated Police Communication Officers was published recently. It is evidence of the growth of the intercity system of police communication. Thousands of dollars' worth of recovered property is to the credit of this system. It is looked upon in much the same light today as the effective use of local police-radio communication between headquarters and patrolling car. Back of it all, the radio men have asked for and received the support of their municipal governments. Their combined efforts have enabled the communication officers to build the radio telegraph network to its present size. Increased interest in other municipalities not now using the system will, in time, make its use universal.

Cities are making increased use of photography, one of the more recent developments of which is in the field of traffic control. In Rochester, N. Y., the camera city, eight municipal departments make special use of cameras. Two of the larger users are the Engineering and Police Departments, A. J. Chippendale, city photographer, who makes hundreds of views of construction jobs in progress and for use in workmen's compensation cases, emphasizes the present general acceptance of photographs as court evidence. In a recent instance, the camera revealed a fault in some extensive ceiling work, resulting in the placing of a new ceiling at once. Two photorecord cameras are finding increasing use—for reducing bulky records to minimum and for copying records of vital and other statistics on 35-millimeter film.

FIRE PROTECTION

From nearly 30 years experience the Public Service Commission of Wisconsin has come to the conviction that the best answer to the question of determining what is a fair and reasonable charge for fire protection service lies in developing a method of determining such charges in each community rather than the prescription of more or less standard rate schedules such as are applied to other classes of service. The classification of fire protection embraces what a water utility furnishes a city and its property owners by having a reliable source of water supply, pumping equipment, storage facilities, transmission and distribution mains, with hydrants attached thereto, adequate to supply the fire-fighting apparatus of the city with all the water it requires at any time even under conditions of maximum draught or demand by general service customers. Keeping ready to supply water under adequate pressure is a more important feature in this service than the actual amount of water used.

Essentially, therefore, the charge for fire protection service is primarily a stand-by or readiness-to-serve charge. And the charge should be sufficient to cover what are primarily capacity costs rather than costs of the water itself. Consequently, a rate for fire protection service can not be expressed as so much per 1,000 gallons of water used in fighting fires. Neither should the charge be referred to as a "hydrant rental" nor based on the number of hydrants attached to the system. The hydrant is only the opening through which water is taken in the event a fire occurs. The term "hydrant rental" tends to obscure the fact that a fair charge for fire protection service is not based on the number of hydrants but on the investment in property which can reasonably be assigned to the service and a fair share of operating and maintenance costs. While it might be possible to quote such a rate as so much per unit of capacity, for example, gallons per minute, it has become the general practice to state the charge as a certain number of dollars per year, with provision for adjusting this charge as mains, with hydrants connected, are extended.

RELIEF

A report to the Senate Committee on Unemployment, submitted on Jan. 22, 1938 by the United States Conference of Mayors, reproduces statements from 60 of the larger cities in response to the following questions: 1. Does unemployment and relief continue to be a serious problem in your city—and what are the prospects for this winter and spring? 2. Is it your judgment that in order to meet the situation the Federal

Government must continue its work program on the same or even an increased basis during the next few months? 3. Is the financial condition of your city such as to warrant increasing the financial contributions of the city in any future Federal program? 4. Has recent additional unemployment in your city, if any, made the relief problem more serious?

In general, the replies from the cities are strikingly uniform. Summarized briefly, the survey shows: 1. That relief continues to be a serious problem in the cities studied. In some cases, the relief load is heavier than at any time in the past three years. 2. If the problem is to be met adequately, it will be necessary for the WPA not only to maintain its present program but to expand its program in certain areas. 3. In general, the cities report that they are contributing all they can in meeting the costs of direct relief and for the local share of the WPA program. 4. The recent business recession has in a number of cities brought about substantial increases in the relief rolls.

BILL BOARDS

In New York State, an action was instituted for penalties under the State Conservation Law which prohibits the erection and maintenance of certain signs and advertising structures in the Adirondack Park area, considerable portions of which have not been acquired by the State but are still in private ownership and use. The decision was a denial of a preliminary motion of plaintiff; leaving the law and the facts of the case to be determined later. In its opinion, however, the Court took occasion to give a dictum which is of interest in spite of the fact that it is not binding upon other courts. That dictum is as follows: "Much has been written regarding the sufficiency of purely esthetic purposes as a basis for the extension of police powers by municipalities under legislative authority. Here the municipality is the State itself. No case in this jurisdiction has been brought to my attention which goes so far as to decide that esthetic considerations alone are sufficent. It may become a question whether the purposes announced bear some reasonable relation to the objects which have been recognized as within the accepted limits of police powers." (*People vs. Sterling,* 168 Misc. Repts. Supreme Court).

PERIODICAL PUBLICATIONS

American City
470 Fourth Ave., New York City.
Housing
105 East 22nd. Street, New York City.
Municipal Finance
850 East 58th. Street, Chicago.
Municipal Sanitation
24 West 40th. Street, New York City.
National Municipal Review
309 E. 34th. St., New York City.
Public Management
850 East 58th. Street, Chicago.
Public Works
310 East 45th. Street, New York City.
Sewage Works Journal
654 Madison Ave., New York City.
Water Works and Sewerage
400 West Madison Street, Chicago.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Civic Assn., 901 Union Trust Bldg., Washington, D.C.

American Legislators Assn., Drexel Avenue and 58th St., Chicago, Ill.

American Municipal Assn., 850 East 58th St., Chicago, Ill.

American Society of Municipal Engineers, 850 East 58th St., Chicago, Ill.

Governmental Research Assn., 850 East 58th St., Chicago, Ill.

Institute of Public Administration, 302 E. 35th St., New York City.

International City Managers' Assn., 850 East 58th St., Chicago, Ill.

National Civic Federation, 570 Lexington Avenue, New York City.

National Civil Service Reform League, 521 Fifth Ave., New York City.

National Municipal League, 309 E. 34th St., New York City.

United States Conference of Mayors, 730 Jackson Pl., Washington, D.C.

DIVISION VI

TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

ALASKA

By Ernest Gruening

Director, Division of Territories and Island Possessions,
Department of the Interior

FOREIGN TRADE

During the fiscal year ended June 30. 1938 commerce between Alaska and the United States increased $5,457,974, while the value of shipments from the States to Alaska increased $4,226,115. The balance of trade in favor of Alaska was $39,204,814, an increase of $1,231,859 over the previous year. The percentage of increase of trade in favor of Alaska did not follow in the same ratio as the increase of total commerce for the year 1937, probably accounted for by the increase in mining machinery and other equipment for new industries shipped to Alaska. While shipments of fish products, mainly canned salmon, to the United States decreased $1,047,412 from the previous year, the yield was well above the average, aggregating in value $50,225,025. Shipments of fur skins to the States totalled $2,987,923, an increase of $548,910 over the previous year. Shipments of gold amounted to $18,575,022, an increase of $2,697,317 compared with 1937. Increased activities prevailed throughout the mining industry in all lines of production. Tourist travel continued to increase and during the summer all ships plying Alaska waters carried capacity loads.

FINANCE

Cash on hand in the Territorial treasury Dec. 31, 1937 amounted to $616.615.71 as compared with $408.858.71 the previous year. The combined resources of territorial and national banks at close of business June 30, 1938 were approximately as follows: capital $800,000, surplus and undivided profits $1,078,123, deposits $15,308,175. Totals for the previous year were: capital $840,000, surplus and undivided profits $987,672, deposits $14,774,663.

FISHERIES

The total value of the Alaska fishery products in 1937 was $51,743,220, an increase of $1.287,948 over the preceding year. Salmon, halibut and shrimp products showed a decline in volume but an increase in value, while herring, clam, crab, whale and other fishery products increased both in quantity and value. The total number of salmon of all kinds taken in 1937 was 109,114.923. The number of cases packed was 6,669.665, valued at $44,547,769, as compared with 8,437,603 cases valued at $44,751,633 in 1936. Canneries operating numbered 113, or four less than in 1936, and the number of persons employed decreased from 25,221 to 24,865. Only 20 herring plants operated, being seven less than in the preceding year, and the number of employees dropped from 1,111 to 988. Nevertheless, the volume of herring products was the largest ever recorded for the Territory, and the total value was $2.891,854 as compared with $2.075,632 in 1936. The halibut industry employed 697 persons as compared with 594 in 1936. The value of halibut landings at Alaska ports totaled $630,911 as compared with $576,334 in 1936. Two whaling stations operating in 1937 employed 222 persons; 376 whales were taken, the total value of products being $479,121, as compared with $334,461 in 1936 when 385 whales were taken.

FURS

A total of 55,180 fur-seal skins was taken in the Pribilof Islands operations in 1937, an increase of 2,734 over 1936. Killings were from surplus three-year old male seals. Computation as of Aug. 10, 1937 showed 1,839,119 seals of all ages and classes in the Pribilof Islands herd, an increase of 149,376 over 1936. This herd has steadily increased since 1910 when there were but 132,000 seals. During the fiscal year ended June 30, 1938 two public auction sales of fur-seal skins were held by the Fouke Fur Co. at St. Louis, Mo. during which 39,676 skins were disposed of. Gross receipts from these sales, together with an additional 874 skins sold at special sales, were $874,365. There were also sold 1,000 blue fox skins for $24,934 and 12 white fox skins for $156. In the 1937–38 season 847 blue and 16 white fox skins were taken on the two islands.

MINERALS

The total value of mineral products in Alaska since 1880, when records were first kept, to the end of 1937, was $749,211,000. Of this total about 65 per cent has been furnished by gold lodes and placers and about 30 per cent by copper lodes. The peak year was 1916 with a total value of $50,900,000. Alaska mines produced $26,989,000 worth of minerals in 1937 as compared with $23,594,000 in 1936. In 1937 the output of gold from both lode and placer mines was $20,373,000, an increase of $1,940,000 over 1936. Nearly 77 per cent of this output came from lodes in southeastern Alaska. The Kennicott copper mines, together with smaller mines from whose concentrates copper is recovered as a by-product, yielded 36,007,000 pounds valued at $4,741,000 as contrasted with 39,267,000 pounds in 1936 valued at $3,720,000, due to the much higher average price for copper that prevailed in 1937. The present high rate of output of copper from Alaska is apparently doomed to drastic reduction due to exhaustion of potential ore reserves. The production of all platinum metals in 1937 was 8,131 ounces valued at $397,600 as compared with 5,654 ounces worth $241,900 in 1936. Tin ore deposits in Alaska, mainly in Seward Peninsula, yielded more metallic tin than during any year since tin mining started in 1902. The recovery in 1937 was 372,400 pounds worth $202,300, compared with 226,000 pounds worth $105,000 in 1936. Coal to the value of $552,700 was produced in 1937 from Alaska mines, principally the Matanuska and Healy River fields. In quantity, the output was 131,600 tons which, except for a production of 136,600 tons in 1936 valued at $573,700, is the largest amount of coal produced by Alaska mines in any year. In addition, 31,556 tons of coal were imported, indicating a domestic consumption for the year of about 163,156 tons.

RAILROAD TRAFFIC AND AVIATION

The railroad showed an annual profit amounting to $76,703, which includes a profit from operation of ocean-going vessels in 1937 of $4,873. The number of rail line passengers carried was 26,026, a decrease of 1,649 from the previous year. Rail line freight traffic amounted to 155,833 tons, a decrease of 1,884 from 1936. Of the total freight, 106,636 tons consisted of coal.

With rapid strides commercial aviation is becoming one of the major factors in the industrial life of Alaska. From one experimental air mail contract 15 years ago it has developed into the present 155 modern planes serving nearly all Alaska. The number of planes increased 54 over the preceding year. Incomplete figures indicate the number of passengers during 1937–1938 totaled 26,885; passenger miles flown, 5,634,461; mail and freight carried, 3,758,495 lbs. A cooperative program is being worked out by the Alaska Aeronautics Commission, the Federal Communications Commission and the Bureau of Air Commerce for installation of aerial radio stations at strategic points in the Territory, and development of other essential facilities.

EDUCATION

The territorial public schools in Alaska for the education of white and mixed-blood children, including both elementary and high schools, are under general supervision of a Territorial Board of Education, with the Commissioner of Education as executive officer. Schools are supported largely by territorial appropriations augmented for rural schools, by 25% of the Alaska Fund which is derived from a variety of Federal taxes collected in the Territory, and for schools within incorporated towns, by local taxation to an extent of 20% to 30% of their operating costs. Four-year high schools, accredited by the Northwest Association of Secondary and Higher Schools, are maintained at Anchorage, Cordova, Douglas, Fairbanks, Juneau, Ketchikan, Nome, Petersburg, Seward, Sitka, Skagway and Wrangell, as well as the rural high schools at Palmer and the Sheldon Jackson School at Sitka. Non-accredited high schools are maintained at Haines and Nenana. Graduation from a three-year standard normal school or its equivalent is a prerequisite for the Alaska elementary teacher's certificate. High school teachers must be graduates of standard four-year colleges and they must have completed a minimum of 15 semester-hours in education. At the 16th annual commencement of the University of Alaska, 20 degrees were conferred as follows: agriculture, one; arts and letters, four; business administration, four; chemistry, one; civil engineering, two; education, one; geology and mining, one; general science, two; home economics, one; and mining engineering, three. In addition to an enrollment of 217 regular students for the year, 735 enrolled in short courses. Agricultural experiment stations are maintained at the University and in Matanuska Valley, and an experimental fur farm is under construction at Petersburg. An extension service serves the Territory with four workers. In addition, the Office of Indian Affairs maintained two vocational schools and 99 elementary schools, which serve also as community centers, for the Indians and Eskimos. Regular teachers of this office are subject to the Civil Service rules and regulations.

REINDEER

The reindeer industry, which was established for the welfare of the native Eskimos and is closely linked with their educational and community life, is administered by the Office of Indian Affairs whose teachers act also as local reindeer superintendents at the 39 established reindeer stations. It is estimated there are 544,000 reindeer in Alaska, 67% of which are owned by Eskimos. The government markets reindeer carcasses only in Alaska.

HEALTH

The territorial Department of Health, which has been expanded by grants under the Social Security Act, conducted extensive activities in the Territory in close cooperation with the medical service of the Office of Indian Affairs. An intensive survey is under way by both departments to find and isolate cases of tuberculosis which continues to be the major health problem, with a death rate among the Indians about ten times the rate for the United States as a whole. Hospital facilities are insufficient and funds for construction of tuberculosis hospitals are greatly needed. The National Tuberculosis Association and other welfare organizations are cooperating in an effort to lower the incidence of this disease in the future. Due to an intensive immunization program the past two years, the number of cases of smallpox has been reduced to a minimum.

PUERTO RICO

By BLANTON WINSHIP

MAJOR GENERAL U.S.A.; GOVERNOR OF PUERTO RICO

DESCRIPTION AND AREA

The Island of Puerto Rico is the fourth in size and the most easterly of the four larger Antilles. San Juan, its capital, is approximately 1,400 nautical miles south and east from New York City and 963 nautical miles east and south from Key West. The Island is 100 miles long by 35 miles wide and has an area of 3,406 square miles. Its population is about 1,800,000. The vernacular language is Spanish but English is widely spoken, and the schools are bilingual. The climate is exceptionally agreeable, due to the advantageous geographical location and the continual trade winds. The average winter temperature is 73 degrees Fahrenheit and the summer average 76 degrees. In the mountains, rising to a height of 4,400 feet, the average temperature is 70 degrees. By contrast Washington, in summer, ranges from 85 to 90 degrees, and higher temperatures (unknown in Puerto Rico) are not uncommon. Puerto Rico is considered the coolest region in the Caribbean tropics.

GOVERNMENT

Puerto Rico has been held by the Supreme Court to be unincorporated territory of the United States and is governed under the Act of Congress of March 2, 1917, known as the Organic Act, and subsequent amendments. Supreme Executive power is vested in the Governor, who is appointed by the President by and with the advice and consent of the Senate of the United States, and holds office at the pleasure of the President. The act provides for seven departments—Justice, Finance, Interior, Education, Agriculture and Commerce, Labor, and Health. The Attorney General, who heads the Department of Justice, the Commissioner of Education and the Auditor of Puerto Rico are appointed by the President; the heads of the other departments are appointed by the Governor with the advice and consent of the Insular Senate. The department heads collectively form a council to the Governor known as the Executive Council.

The Island is represented in the United States by an elected Resident Commissioner, who has a seat in the United States House of Representatives, with the right to debate but not to vote.

Local legislative powers are vested in a Senate and a House of Representatives chosen by the electorate of the Island every four years.

The judiciary system consists of the Supreme Court, the District Court of the United States for Puerto Rico, the district and municipal courts, and justices of the peace. Appeals may be made in certain cases to higher courts, including the Supreme Court of the United States. The Chief Justice and four Associate Justices of the Supreme Court, the District Judge, the District Attorney and the Marshal of the District Court for Puerto Rico are appointed by the President. Statutory laws of the United States not locally inapplicable, unless otherwise provided, are in effect in Puerto Rico, except the internal revenue laws.

LEGISLATION

The second session of the Fourteenth Legislature elected Nov. 3, 1936, was held from Feb. 14 to April 15, 1938. A special session was held from Aug. 10 to Aug. 23, 1938. Significant measures enacted include: provision for the permanent appointment of school teachers after a reasonable probation period; appropriation of funds for a cancer institute; a measure providing for the creation of a labor relations board; an appropriation to promote the industry of fiber weaving; appropriation of funds for new wharfs at San Juan and Arecibo, approval of bond issues to purchase the Río Blanco Hydro Electric

Plant; legislation relative to slum clearance and housing projects.

ECONOMIC CONDITIONS

In many respects, the Island has experienced a period of great progress and improvement in recent years. The large volume of overseas trade and the increased value of shipments as compared with earlier years, both to and from Puerto Rico, indicate a remarkable economic progress. Agricultural rehabilitation projects undertaken by the Puerto Rico Reconstruction Administration have provided employment to a large number of agricultural and industrial workers. The development of a greater number of small farms, with diversification of crops, is being carried on by the Administration through projects directed to reduce concentration of lands in a few hands, absentee ownership and a one-crop agriculture. Government and private building construction in cities and towns is general, and during the past two years the Island has experienced a virtual building boom. The Insular Government has kept within its budget and added to its surplus.

COMMERCE

The total overseas trade of Puerto Rico during the fiscal year 1937–38 showed a decrease of 28 per cent in exports and 5 per cent in imports over the preceding year. Exports amounted to $82,077,178 and imports to $93,314,783, or a total trade of $175,391,961 as compared with $213,813,796 for the previous year. This decrease in overseas trade was largely due to the fact that shipments of sugar were unusually light during the first six months of 1938. Puerto Rico exported $79,808,113 to the continental United States in 1937–38, representing 97 per cent of the total exports. Of the imports $84,987,994 worth came from continental United States. The total trade between Puerto Rico and the continental United States was $164,796,107, or 94 per cent of all trade. During the calendar year 1937, Puerto Rico purchased more from the continental United States than any other area in North and South America with the exception of Canada, Mexico, Argentine and Cuba. With the exception of the United Kingdom, Puerto Rico buys more food from the continental United States than any foreign country.

FINANCE

The total revenue collections of the Insular Treasury for the year ended June 30, 1938, amounted to $43,298,448, the highest ever recorded for the Island, exceeding also by $2,087,341 revenue collections for the preceding year. Expenditures totalled $17,547,823 from the general fund and $24,118,506 from trust funds. The cash balance in the general fund was $2,158,127, as compared with $2,683,623 for the previous year and $1,564,714 for 1936. The cash balance in the trust funds was $12,033,756 as compared with $9,876,141 on June 30, 1937, and $7,256,726 on June 30, 1936. Outstanding bond obligations on July 1, 1938, amounted to $27,400,000. During the year bonds were issued in the sum of $575,000 and bonds redeemed amounted to $1,405,000. Municipal bond indebtedness amounted to $14,103,900, as compared with $14,996,500 for the preceding year, or a reduction of $892,600. Total assessed valuation of all property was $302,680,620, as compared with $295,893,430 for the preceding year and $294,481,256 for 1936. Average rate of property tax was 2.2361 per cent or .0484 per cent above the rate for 1937. Income tax assessments amounted to $4,543,175 as compared with $4,683,892 for the year before; and collections thereon were $3,679,673 as against $3,342,887 for 1937. The number of banks doing business on June 30, 1938, was 12 with 19 branches, deposits aggregating $56,297,509, a decrease of $3,535,890 or 5.91 per cent below the preceding year. Cash balances in the general and trust funds aggregated $14,191,883, as compared with $12,559,764 for the preceding year, or an increase of $1,632,119.

AGRICULTURE

Puerto Rican agriculture was unstable. The sugar quota assigned by the Secretary of Agriculture was as follows: exportation to continental markets (including 126,033 short tons for direct consumption), 809.649 short tons; for local consumption, 73.851 short tons. The total production for 1938 was estimated at 1,077,128 short tons; but the Island could easily produce 1,500,000 tons in any normal year if there were no quota restrictions. It was estimated that the accumulated surplus stocks of sugar on Jan. 1, 1939 amounted to 400,000 short tons. The total production of blackstrap molasses during 1936–37 amounted to 41,083,011 gallons of which 27,138,830 were exported having a value of $1,210,592.

The total production of tobacco for 1936–37 was 30,420,102 pounds. There remains on the Island 5,682.644 pounds of stripped tobacco. In the opinion of experts the 1938 coffee crop will not exceed 18,000,000 pounds. Local consumption was estimated at 15,000.000 pounds. Although cotton had been planted in Puerto Rico during the Spanish dominion, the long staple fiber considered the best in the world had been planted in the Island for about 30 years. The crop of 1937 amounted to 457 bales.

For many years, Puerto Rico has been a fruit producing center of great importance. The fruit industry ranks third in the list of farm products sold by Puerto Rico to the outside world. Puerto Rico devotes around 6,000 acres to the production of pineapples. The canning industry consumes about 150.000 crates of grapefruit and close to 175.000 crates of pineapples.

EDUCATION

The Commissioner of Education is stressing and extending English, not only in the schools, but also by means of radio programs which include well graded lessons in English. New vocational centers have been established in the urban area as well as in the rural zone. Adolescent classes, part-time classes and night classes offering all types of instruction have been organized. During the school year 1936–37 there were 1,713 schools: 25 high, 249 elementary urban, 1,370 elementary rural, 67 second units, and two trade schools. The average daily attendance in all schools was 215,701. The first four grades comprised 69.37 per cent of the enrollment. The total number of school buildings was 2,093, of which 1,118 are owned by the Government. There were 5,150 teaching positions, of which 4,836 were paid from insular and 170 from municipal funds. There were 578 organized school lunchrooms, 123 urban and 455 rural, serving an average of 31,116 pupils daily. Fifty-one private schools were in operation with an enrollment of 10,862, employing 480 teachers. The University of Puerto Rico had an enrollment of approximately 5,000, a substantial increase over the previous year.

PUBLIC WORKS AND COMMUNICATIONS

The entrance channel to San Juan Harbor has a depth of 38 feet. The turning basin, with a depth of 30 feet, has been enlarged and the bay may be safely visited by the largest ships in the Caribbean trade. Additional dredging in San Juan Harbor was commenced in October, 1938 with a view to widening and deepening the channel and enlarging the anchorage area. The construction of a large graving dock in the Harbor of San Juan has been started as a P.W.A. project. The air service of the Pan American Airways, Inc., is steadily improving. The number of motor vehicles registered for the year ended June 30, 1938 was 21,553, which was 586 more than the preceding year. The Island has 2,216 kilometers of hard-surfaced roads. The Federal Government has made an appropriation for the suppression of grade crossings and for increasing the mileage of improved roads.

HEALTH

The entire territory of the Island, covering a total of 76 municipalities with an aggregate population of 1,804,934, is served by local health agencies under full-time personnel. Four district hospitals, with a capacity of 1,000 beds, for the care of tubercular patients have been constructed and are in operation. Nine anti-tuberculosis centers for the treatment of ambulatory patients have been opened. Extensive work has been carried out recently in the control of malaria and hookworm. Four large district hospitals are now under construction for the medical and surgical care of the indigent, to be operated under the Department of Health. Health conditions on the Island are satisfactory, generally speaking. The general mortality for the year 1937 was 20.9 per 1,000 population as compared with a rate of 20.5 for the year 1936. The birth rate for 1937 was 38.3 per 1,000 population and 40.6 for 1936.

TOURIST PROMOTION

In view of the fact that, for the first time a fairly substantial sum was available in 1937–38 for the promotion of the tourist business of the Island, this important industry is flourishing as never before. During the first year of active promotional activity the number of visitors to the Island increased 300%. The Institute of Tourism, created at the time these funds became available, maintains offices in Rockefeller Center, New York City. The development of tropical "dude" ranches in the mountains of Puerto Rico, construction of additional hotel and apartment accommodations, deep sea fishing off the coast of Mona Island, exploration of the beautiful marine gardens near San Juan, introduction of dog racing and similar enterprises are well underway.

REHABILITATION

The Puerto Rico Reconstruction Administration has attained satisfactory results with its principal projects and is proceeding with a general rehabilitation program. The Public Works Administration has made a number of loans and grants to municipalities and to the Insular government for the construction of sewer systems, hydroelectric plants, public buildings, and other similar projects. A modern plant for the manufacture of cement has been completed and is now in operation. In addition to these projects the combined agencies have supervised the restoration of ancient public buildings, repaired the old city walls, and arranged to safeguard other colonial monumental features from further ravages of time.

THE PHILIPPINE ISLANDS

By Charles Burnett

Brigadier General, U.S.A.; Chief, Bureau of Insular Affairs,

War Department

POLITICAL AND GOVERNMENTAL STATUS

The status of the Philippine Islands is that of an unincorporated territory of the United States. Under the program provided in the Independence Act of 1934 complete independence of the Islands will be established in 1946. The act specifically sets forth the general powers and authority reserved to the United States during the period of the Philippine Commonwealth government. The public debt may not exceed limits now or hereafter fixed by the Congress of the United States; trade relations with the United States continue to be governed exclusively by Congress; acts of the National Assembly affecting currency, coinage, imports, exports and immigration do not become effective until approved by the President of the United States; foreign affairs remain under the direct supervision and control of the United States; all acts passed by the National Assembly must be reported to the Congress of the United States; decisions of the courts of the Commonwealth government are subject to review by the Supreme Court of the United States; citizens and corporations of the United States enjoy in the Commonwealth of the Philippines all the civil rights of citizens and corporations of the Philippines. The United States reserves the right to maintain military and other reservations in the Islands until independence, and to occupy naval reservations and fueling stations after independence. There is also reserved to the United States the right to intervene under certain conditions set forth in the act. During the period of the Commonwealth government a United States High Commissioner "shall be the representative of the President of the United States in the Philippine Islands."

CITIZENSHIP

Citizens of the Philippine Islands owe allegiance to and are under the protection of the United States but are not citizens thereof. Those who have had honorable service of not less than three years in the United States Navy or Marine Corps or the Naval Auxiliary Service or Coast Guard or who were veterans of the World War may become citizens of the United States. For purposes of immigration the Philippine Islands are considered as a separate country and the number of immigrants that may enter the United States from the Islands for each fiscal year is limited to a quota of 50.

GOVERNMENTAL ORGANIZATION

The Independence Act greatly broadened the autonomous powers of the Philippine government. The executive power is vested in the President of the Philippines elected by the Filipino people for a six-year term and ineligible for re-election. He controls all executive branches and has general supervision over local governments. He appoints all senior officers of government and all minor officials not otherwise provided for. The President is commander-in-chief of armed forces of the Philippines; in emergencies he may suspend the writ of *habeas corpus* or place the Islands under martial law. He has power to grant reprieves and pardons and remit fines and forfeitures, after conviction, for all offenses, except in cases of impeachment. There are seven executive departments. The Auditor-General is appointed by the President for a ten-year term and is not eligible for reappointment. The Philippine Resident Commissioner to the United States is appointed by the President of the Philippines.

The legislative power is vested in a unicameral legislature called the National Assembly to meet every year in regular session for not to exceed 100 days. Special sessions are limited to 30 days. The membership, not to exceed 120 apportioned on basis of population, is elected by popular vote every three years. Close control and supervision over the natural resources of the Islands is given to the Assembly. That body has power to legislate with reference to public lands, timber and mining. Formerly legislation on these subjects required the approval of the President of the United States before becoming effective. Heads of departments may be heard before the Assembly. Veto provisions are similar to those in the United States Constitution, except that the President may veto specific items in appropriation, tariff and revenue bills.

The judicial power is vested in a Supreme Court constituted of seven members, a Court of Appeals consisting of 15 judges, a Court of Industrial Relations, Courts of First Instance in each 27 judicial districts, and inferior courts.

UNITED STATES HIGH COMMISSIONER

The High Commissioner, Paul V. McNutt, came to the United States in February, 1938, to confer with the President and other officials regarding a number of pending matters and returned to duty in Manila March 24.

Contracts have been awarded for the construction of the residence and office buildings of the High Commissioner in Manila and in Baguio, the summer capital. The necessity for these buildings arises from the fact that the houses occupied by former American Governors General were transferred to the Philippine government by Congress in the Independence Act. The new buildings will be available for diplomatic purposes after independence is established.

JOINT PREPARATORY COMMITTEE

The Joint Preparatory Committee on Philippine Affairs, created April 14, 1937 pursuant to an arrangement between the President of the United States and the President of the Philippines for the purpose of studying trade relations between the two countries and recommending a program for the adjustment of Philippine national economy, proceeded to the Philippine Islands after completing its study in the United States. It arrived in Manila Aug. 16 and held hearings there during the month of September. After visiting most of the provinces of the Philippines to secure first-hand information that would be valuable in making their report and recommendations, the Committee left Manila Nov. 10, 1937, and resumed work in Washington early in 1938. Its exhaustive report was signed on May 20, 1938, and submitted to the Interdepartmental Committee on Philippine Affairs, which forwarded it to the President of the United States.

The report was approved both by President Roosevelt and by President Quezon. During a visit to the United States early in 1937 President Quezon proposed that the date of Philippine independence be advanced to Dec. 31, 1938 or July 4, 1939, and the Joint Preparatory Committee was instructed in making its recommendations to consider the bearing which an advancement of the independence date would have on facilitating or retarding the execution of a program of economic adjustment in the Philippines. In its report the Committee recommended no change in the date prescribed in the Independence Act for the attainment of the political independence of the Islands. In fact, all of its recommendations are premised on the assumption that the Philippines will become independent on July 4, 1946.

The Committee's findings are intended to provide the basis for legislative action to correct the "imperfections and inequalities" in the Independence Act and to soften the economic shock from the severance of ties existing for 40 years. The export tax provided in the Independence Act, including that on sugar, would be retained but the date on which the tax would go into effect would be postponed from Nov. 15, 1940 to Jan. 1, 1941. There would be exempted from the present export tax requirement certain Philippine commodities—cigars, scrap tobacco, cigar ends and stripped filler tobacco, coconut oil and pearl buttons. The Independence Act provides that during the last five years of the Commonwealth period the preference for Philippine commodities in the United States shall be gradually reduced by 5% each year so that by July 4, 1946, 25% of this preference will have been eliminated. After independence, the plan provides for continued operation of this same principle of 5% annual reductions of trade preference. The 75% of preference remaining at the close of 1946 would be eliminated by Dec. 31, 1960.

As provided in the Independence Act, there would be no curtailment during the Commonwealth period of the preference in the Philippine market for American goods. Beginning with independence, however, equality of treatment of goods of the two countries would be established by requiring that American products entering the Philippines be subject to 25% of the Philippine import duties. Refund to the Philippine treasury of money collected for export taxes would be earmarked for use in retiring Philippine bonded indebtedness which had been guaranteed by the United States. The Committee recommends that Congressional amendment of the Independence Act be supplemented by a treaty to effectuate those recommendations applicable to the period subsequent to July 4, 1946, when the Philippines will be an independent country.

LEGISLATION

During the second regular session of the National Assembly, which adjourned on Nov. 20, 1937, a bill was passed fixing the fourth Monday of January of each year for the opening of the regular sessions, instead of Oct. 16. Pursuant to this legislation, the Assembly opened its regular session for 1938 on Jan. 24 and adjourned May 19. The most important of the 105 measures passed was a $96,351,000 public works bill providing for a heavy four-year construction program. Two more chartered cities were created—Bacolod and Tagaytay. The membership of the Court of Appeals and the Court of Industrial Relations was increased. The powers of the National Development Company were expanded and the National Abaca Corporation was created for the purpose of stabilizing the price of hemp and other fibers. The Commonwealth government was represented in the American delegation to the London Sugar Conference and the Philippines were included in the agreement perfected in May: this sugar agreement was approved by the Assembly. The Philippine Constabulary was taken out of the Army and reestablished as a separate unit and the state police force was abolished.

To carry out President Quezon's program of social justice, several measures were designed for the improvement of labor conditions. One bill continuing the duty-free entry into the Philippines of woods, barks, roots, and similar natural products used in dyeing or tanning, required approval by the President of the United States and was so approved Feb. 26, 1938.

Bills which were passed during special sessions held later in 1938 included the electoral code and made provision for the exploration of oil lands, for the lease of large estates to be sub-let in small lots to *bona fide* occupants, for government operation of public utilities, and for military courts of justice. One dealing with a matter affecting the currency will require the approval of the President of the United States.

FINANCES

On Dec. 31, 1937 (latest complete figures available) the financial position of the Commonwealth government was excellent. The public debt was small. The sinking funds for all outstanding indebtedness had been regularly provided for and segregated. The currency reserves were in excess of the legal requirements for the currency in circulation. The cash on hand and on deposit in the United States amounted to $159,633,140.90.

The total income of the central government was $106,240,713.00, an increase of $54,489,594.19 over 1936. This amount included $47,753,613.65 representing the first payment by the United States on July 1, 1937 from sums collected as tax on coconut oil from the Philippines. The satisfactory financial condition was due largely to the receipt of these coconut oil tax funds. The total expenditures for the year amounted to $56,944,985.71, an increase of $10,761,889.36 over the expenditures made in 1936. The total current surplus as of Dec. 31, 1937, was $103,467,880.87, compared with $45,012,853.13 in 1936, an increase of $58,455,027.74. This amount represents the excess of income over expenditures for the fiscal year.

The invested surplus on Dec. 31, 1937 amounted to $85,223,102.70, as compared with $74,777,570.73 for the previous year, an increase of $10,445,531.97.

A net reduction of $2,722,000 in the total outstanding bonded indebtedness of the Philippine Islands was made for the year 1937. On Dec. 31, 1937, the bonded indebtedness of the insular government amounted to $53,730,000, and that of its provinces and municipalities to $8,422,000, or a grand total of $62,152,000. If from this total there be deducted collateral bonds with a face value of $6,939,000, issued against provincial and municipal bonds, the net amount of outstanding bonds on Dec. 31, 1937 was $55,213,000, of which $18,136,500 were owned by the Philippine government, having been purchased from sinking or other funds.

TRADE

The total external trade of the Philippines with the United States and foreign countries during the year

1937 amounted to $261,659,142, and showed an increase of $24,088,002, or 10 per cent over 1936. Exports (not including $14,327,300 of gold and silver) were valued at $152,633,397, an increase of 12 per cent, while imports, amounting to $109,025,745, were 8 per cent higher. The favorable balance of commodity trade aggregating $43,607,652 (exclusive of gold and silver) was larger than that of any previous year on record. This balance, as heretofore, is the result of the usual favorable balance of trade with the United States. Gold production from Philippine mines has steadily increased, shipments to the United States amounting to over $25,000,000, on the basis of United States customs returns for 1937.

Trade with the United States totaled $185,412,225 (exclusive of gold and silver), an increase of 10 per cent and made up 71 per cent or practically the same percentage of the total external trade as in 1936. Goods bought from the United States represented 58 per cent of the total incoming merchandise as compared with 61 per cent in 1936. Exports to the United States increased 13½ per cent, the $122,110,189 trade being 80 per cent of the total exports.

Sugar shipments showed a reduction in quantity and value over the previous year. Shipments of sugar in 1937, approximating 38 per cent of the total export trade for the Islands, aggregated 857,283 long tons as compared with the previous year's total of 885,621 long tons. Shipments of coconut products, consisting of copra, coconut oil and desiccated coconut, showed an increase of approximately $9,600,000 over the 1936 value and amounted to 28 per cent of the value of all exports. In the Manila hemp trade there was a reduction in quantity from 164,484 long tons exported last year to 162,727 long tons in 1937, the value, however, increasing from $17,088,599 to $21,639,687. Leaf-tobacco was exported in reduced quantities, while cigar shipments increased.

Reports on external trade for the six-month period January-June, 1938, following the close of the last calendar year, indicate increased value in import trade with a marked falling off in exports as compared with 1937.

EDUCATION

The total annual enrollment in the Philippine public schools, as of September, 1937, was 1,484,912. The teaching staff numbered 32,485, an increase of nearly 4,000 over 1936. In line with the national defense policy of the Commonwealth government, 5,700 of the teachers have been trained in military teacher-training camps. The percentage of children of school age enrolled in the public schools increased from 36 to 42.

GENERAL CONDITIONS

General conditions were excellent in 1938. The Philippines continued to enjoy the blessings of general peace and order and an enviable prosperity. Trade continued to expand.

In August, 1937, because of the Japanese invasion of China, it was necessary to evacuate Americans and Filipinos from Shanghai and North China to Manila. They numbered 987 Americans, 393 Filipinos, and 73 aliens, mostly women and children. Many of them were destitute. The American Red Cross, the United States Army, the office of the High Commissioner, the Commonwealth government, and the general public cooperated in taking care of the emergency in Manila. About 150 of the Americans left almost immediately for the United States. By the end of the year only 14 of these refugees were left in Manila on relief.

In 1937 the Islands were visited by two destructive typhoons, but prompt relief measures prevented the appearance of epidemic diseases. In August there occurred in Manila and central Luzon the worst earthquake in 30 years, but there was very little loss of life and relatively little damage to property.

Of special interest was the eruption in June, 1938, of the semi-active Mayon volcano, in the province of Albay, for the first time in 10 years. No loss of life was reported, but there was heavy damage to crops.

THE VIRGIN ISLANDS

By Lawrence W. Cramer

Governor of the Virgin Islands

GOVERNMENT

The islands in this group, of which the largest are St. Thomas, St. Croix, and St. John, were purchased by the United States from Denmark in 1917 for $25,000,000. Until 1931 they were under the jurisdiction of the Navy Department. In that year they were transferred to the Department of the Interior and since then have enjoyed the status of an Island Possession within the Division of Territories and Island Possessions in the Department of the Interior. On June 22, 1936 Congress passed an Organic Act for the Virgin Islands, giving a larger amount of self-government to the two Municipal Councils of the Islands and creating a Legislative Assembly for the group.

ECONOMIC CONDITIONS

Definite improvements in the economic rehabilitation of the Virgin Islands have been recorded in the past few years. This improvement continued to be apparent in both Municipalities during the present fiscal year until a prolonged and severe drought in the Island of St. Croix seriously affected the situation there. The sugar business and the cattle business, which are the two basic industries of St. Croix, upon the former of which much of the rehabilitation program is based, were struck staggering blows by the drought at a time when sugar and cattle prices were at unprofitable levels.

HOMESTEADING

The homestead program was expanded, and there has been purchased a total of 3,639 acres of land on which 380 homestead families have been established. Under an easy amortization plan, homesteaders are acquiring possession of plots of land averaging six acres each, on which comfortable small houses have been constructed. In many cases these homesteaders had previously been renters of private land, paying from $5 to $12 per annum per acre as rental. This amount is in excess of that now paid annually under their purchase contracts for homestead plots. Many of the homesteaders were agricultural laborers earning from 30 to 60 cents per day when fortunate enough to secure employment. Repayments in a total amount of $12,970 were made to the United States Treasury by homesteaders and from homestead sources during the year. The record established by homesteaders in previous years gives ample evidence of the wisdom of establishing field laborers in St. Croix on small farms.

TOURIST TRADE

The development of the tourist trade continues to make steady progress. During the year 13 tourist ships called at the port of St. Thomas with a total of 6,487 tourists aboard. Bluebeard Castle Hotel was taken over by a private operator under a mutually satisfactory lease on Dec. 1, 1937. It has contributed substantially to the development of St. Thomas as a winter resident center. Extensive improvements in the sanitary facilities of the town of Charlotte Amalie, the surfacing of streets, the construction and improvement of street drains, and the reconstruction and improvement of highways during the year have contributed to the development of St. Thomas as a tourist center. Plans are now under consideration to establish Federal Savings and Loan Associations through which the financial assistance of the Federal Home Loan Bank Board can be secured for construction and other local requirements.

URBAN HOUSING

Three urban housing projects located in each of the towns of the Virgin Islands were undertaken by the P.W.A. Housing Division in 1935.

These projects are now completed. One hundred and twenty-six family units, with a total of 230 rooms, have been constructed. The houses are of sturdy construction which will resist both hurricanes and termites. They provide comfortable, decent, and sanitary dwelling units at rentals which are competitive with rentals now charged commercially for overcrowded, barracks-like, one-time slave quarters or other disgraceful hovels.

CIVILIAN CONSERVATION CORPS

The Civilian Conservation Corps has established three camps in the Virgin Islands, one in St. Croix, with an authorized enrollment of 100, and two in St. Thomas, one of which has an authorized enrollment of 100 and the other of 200. The latter is a so-called Senior Camp which accepts enrollees in the age group between 18 and 55. The CCC has undertaken a number of important projects, among them the establishment of a recreational field adjacent to each of the towns of the Virgin Islands, the construction of truck trails, the propagation and planting of large numbers of trees, drainage work, construction of fire trails and other projects. Much benefit has been derived from the disciplined activities of this organization which is of special importance in the Virgin Islands where home training is often lacking and more often inadequate. A number of afforestation projects were begun during the year by the CCC organization, including the planting of hardwood trees, planting of cocoanut palms, and the development of approximately 4,000 acres as a mahogany forest.

ROAD PROGRAM

Further progress was made in improving the road system of the Virgin Islands in accordance with a master plan approved by the local authorities. A total of 17 miles of road were improved during the fiscal year. Of these 33 miles were asphalt penetration roads in St. Thomas and 11¾ miles were asphalt surfaced roads on a water-bound macadam base in St. Croix. The completion of the program laid down for the present fiscal year, in spite of delays in the allocation of funds and in spite of the difficulties of procurement due to the great distance of the Virgin Islands from supply points, represents a highly creditable achievement.

NONFEDERAL PROJECTS

Numerous improvements were effected at the Bluebeard Castle Hotel which proved to be necessary after a preliminary period of operation. Special attention was given to water supply, sanitary installations, electric wiring, kitchen facilities, and other service units of the hotel.

Much progress can be reported in the improvement of sanitary facilities in the town of Charlotte Amalie. Due to the limitations of water supply, sanitation facilities and sewage disposal have historically constituted a serious problem in the towns. Substantial improvements to the salt water supply system and the sewer system in Charlotte Amalie were accomplished in the fiscal year 1938, with considerable extension of the service to sections of the town which had previously not been served.

Progress was made during the year in surfacing streets and improving surface drains in each of the three towns of the Virgin Islands. This program, extending over a number of years, has added greatly to the cleanliness and attractiveness of the towns, and to the health and comfort of the people.

COOPERATIVES

Cooperative enterprise in the Virgin Islands got its start in the spring of 1931 when Governor Paul M. Pearson initiated a Self-help Cooperative to develop a market for the home industries of the islanders, consisting principally of plaiting palm, weaving baskets, needle work, fruit preserving and other handcraft. The steady progress of the Cooperative continued during the fiscal year under review. The organization has carried on entirely on its own resources. Despite the fact that no financial aid has been received from any Federal agency, it has been possible to employ a greater number of people and give them increased employment.

During the fiscal year 1937–1938, 742 persons worked for the Handcraft Division of the Cooperatives making baskets, hats, etc. The production pay rolls for the year carried 8,827 persons for a total of $20,635.49, as compared with 5,578 persons for a total of $14,386.78 for the fiscal year 1936–1937. Individual production has increased during the fiscal year just closed over the average production per worker in past years.

The Rural Division of the Cooperative, known as the Rural Cooperative Association, has also carried on successfully. This organization now has 63 members, including practically all the small farmers of any importance.

In order to encourage more and better production of poultry for which there is a great demand in this market, the Rural Cooperative has established a demonstration Poultry Farm at the Agricultural Station at Lindbergh Bay. The farmer-members are planning to go in for poultry raising.

SHIPPING

The shipping industry in the port of St. Thomas continued its improvements with resulting benefits to the community at large. During the fiscal year 814 ships with a total tonnage of 3,239,975 called at the port of St. Thomas as compared with 777 ships with a tonnage of 3,084,173 in 1937, and 647 ships with a tonnage of 3,017,682 in 1936. There was inaugurated during the year for a trial period, an arrangement for the transshipment of bauxite at the port of St. Thomas from small vessels from British Guiana to the ships of greater draught which transport it from St. Thomas to Canada.

The Army Engineer Corps has continued its engineering surveys of the harbor with a view to beginning authorized harbor improvement work in the new fiscal year. The prosecution of this project is of first importance to St. Thomas whose entire economic life depends on shipping.

FISCAL

The revenues of the municipal governments again showed substantial increases over previous years. In the case of St. Croix, however, collections were less than estimated at the beginning of the fiscal year due to a considerable loss of sugar export taxes and other taxes falling on the sugar business. It is feared that substantial decreases in municipal revenues for the municipality of St. Croix will result in the fiscal year 1939 because of sugar cane crop losses in 1938 and 1939.

The actual revenues of the Municipality of St. Thomas and St. John were $213,981.94, which represents an increase of 19% over the revenues of the preceding fiscal year. Income tax collections were $81,776, an increase of 130% over the preceding fiscal year, and an increase of 461% over the fiscal year ended June 30, 1935. Receipts from Customs dues were $17,137, an increase of 17% over the fiscal year 1937.

The actual revenues of the Municipality of St. Croix were $191,816.03, an increase of 7% over the preceding year. Income tax collections were $16,365, an increase of 36% over the fiscal year 1937. Export duty of sugar brought in $37,303, an increase of 24.5% over the preceding fiscal year.

GUAM AND AMERICAN SAMOA

By Tully Shelley

Commander, U.S.N.; Office of Island Governments, Navy Department

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GUAM

Historical.—The Island of Guam, located at the southern end of the Marianas group in approximate latitude 13° North and longitude 145° East, was discovered on March 6, 1521 by Magellan while on his voyage around the world. He named the islands "Ladrones." The name was changed later to "Marianas" in honor of Maria Ana of Austria, Queen of Spain. The first Spanish missionaries landed in Guam on June 15, 1668. A period of colonial development under Spanish rule was inaugurated and continued until June 21, 1898, when the island was captured by the U.S.S. *Charleston,* commanded by Capt. Henry Glass, U. S. Navy. At the termination of the war with Spain, Guam was ceded to the United States by the Treaty of Paris.

Government.—The present form of government dates from Dec. 23, 1898, when President McKinley issued an Executive Order placing the Island of Guam under the control and jurisdiction of the Navy Department. A naval officer is commissioned by the President as Governor and the same officer receives orders from the Secretary of the Navy as Commandant of the Naval Station, Guam, which station includes the entire island. The Island Government, under the Governor, is organized with all the usual governmental departments, headed by naval officers. Civil regulations with the force and effect of law are issued by the Governor. There is a Guam Congress, composed of representatives of the people, which assembles periodically. It has no legislative authority, but acts entirely in an advisory capacity. The present Governor of Guam is Captain James T. Alexander, U. S. Navy. The seat of the island government is Agana.

Population.—On July 1, 1938, the total population of Guam was 22,314 divided as follows: native born 20,880, foreign born 755, naval establishment and families 679. The native born population is steadily increasing. The natives are known as Chamorros and are of Malayan origin with strains of Spanish, Mexican, Chinese, American and Filipino blood. The official language is English but the ancient Chamorro tongue, corrupted by Spanish, English and dialects of the Philippines, is still in general use. Under American jurisdiction the natives are regarded as wards of the United States Government and are classified as citizens of Guam. They have been little affected by the political, economic and industrial problems of the outside world and are protected from exploitation by the paternal form of government. No alien may own land in Guam and all sales of land must have the approval of the island government.

Agriculture.—Nearly every native family cultivates a small farm which supplies the principal necessities of food, and agriculture presents the best opportunity for achieving a self-supporting populace. The island Department of Agriculture, cooperating with the U. S. Department of Agriculture, is engaged in developing new and better crops and in teaching the people modern and scientific farming methods. An experimental farm is maintained for stock breeding and agriculture development; seeds are issued; and irrigation projects are extended. Copra is the principal crop and the one item of export at present, but the production of rice, tobacco and other crops which may be developed is being furthered by the government.

Trade and Commerce.—The copra export for the fiscal year 1938 totaled 3,707,545 pounds. The balance of trade against Guam for the fiscal year 1938 was $485,062. Very few merchant ships call at Guam. During the fiscal year 1938, 135 vessels entered and cleared, including government vessels and aircraft clipper ships of the transpacific service. Imports were valued at $635,112 and exports at $150,050. The Pan American transpacific air service through Guam is an important connection with the outside world.

Banking.—The Bank of Guam, established by an Executive Order of the Governor in 1915, is the only bank in Guam. The capital stock of $25,000 is owned by the island government and the bank is operated for commercial banking as a division of the Treasury Department of that government. During the fiscal year 1938 the bank financed shipments of merchandise imported by the merchants of Guam to the value of $391,512. Gross earnings of the bank for the fiscal year were $28,464, and net earnings were $22,880.

Health and Sanitation.—The general health and sanitation conditions in Guam are good and there was no disease in epidemic form during the year. There are no civilian physicians or hospitals on the island, and the government hospitals for the people are operated by naval surgeons and nurses and native nurses trained by the Naval personnel, who treat the people without charge. One civilian dentist is maintained by the island government. The entire population is benefited by the sanitary instruction, training of nurses and detection and isolation of infectious diseases. Schools are visited and children are examined physically by a health officer on an average of twice yearly.

Education.—The general policy of the naval island government, with reference to educational activities, has been formulated as follows: to enlighten the minds of the people by means of education and to stimulate their development through training and self-discipline. In accordance with that general policy, academic instruction includes the usual grammar school subjects with special emphasis placed on teaching the people the English language. Training in industry and agriculture is considered to be of paramount importance in connection with developing and encouraging the people to a greater degree of economic independence. During the year the total enrollment of the public schools was 4,066. There were 25 academic day schools, one Junior High School, five industrial schools, one Evening Normal School, one private school (primer to 12th grade), and one agricultural school. All teachers in the regular native schools are natives. Six Americans are employed in the American School for American children.

AMERICAN SAMOA

Historical.—The first record of the Samoan Islands is believed to be that made in 1722 by Jacob Roggeveen, in command of a Dutch expedition to Java *via* Cape Horn. That navigator called his discovery the Baumann Islands but learned very little about them as he did not land. In 1768 they were visited by the French circumnavigator, Bougainville, who named them the Navigators Islands, a name generally used until Capt. Charles Wilkes, U. S. Navy, visiting them in 1839, first called them the Samoan Islands. Native wars and international controversies persisted through the 19th century until, on Dec. 2, 1899, the United States, Great Britain, and Germany signed a treaty by which the Samoan Islands west of longitude 171° W. were allocated to Germany and those east of that line to the United States. On April 17, 1900, the High Chiefs of Tutuila voluntarily ceded the islands of Tutuila and Aunnu to the United States and the islands of the Manua group were ceded by their chiefs on July 16, 1904. By Joint Resolution of Congress approved March 4, 1925 the sovereignty of the United States was extended to Swain's Island, 210 miles to the northward of Tutuila and that island was made a part of American Samoa.

Government.—On Feb. 19, 1900, the present form of government was established, when a Presidential Executive Order placed the islands of American Samoa under the jurisdiction of the Secretary of the Navy. They are under the immediate administration of a naval officer who is commissioned by the President as Governor of American Samoa and that officer is also Commandant of the Naval Station, Tutuila. The island government is organized with all the usual governmental departments, and in addition there are native district governors and native county and village chiefs who take an important part in administrative affairs. An annual fono, or general meeting, is attended by the chiefs and delegates of the people, at which meeting the Governor imparts information and receives recommendations and suggestions. The laws of American Samoa are embodied in a codification of the Regulations and Orders for the Government of American Samoa as issued by the Governor. The policy of the island government and Navy Department, briefly expressed as "Non-exploitation of the natives, non-alienation of the lands, and Samoa for the Samoans" is carefully followed in furthering the best interests of the people. The present Governor is Capt. Edward H. Hanson, U. S. Navy. The seat of the government is Pago Pago, Tutuila.

Population.—On July 1, 1938 the total population, including all islands of American Samoa, was 12,241. The present population represents an increase of more than 100% since 1900, the increase being due to the cessation of internecine warfare and the sanitary and medical work of the medical officers of the United States Navy. Under the paternal island government the people are happy and peaceful. Samoan customs and culture are preserved and respected by the authorities.

Agriculture.—The development of agricultural and industrial interests in a race not given to such pursuits has been difficult. However, in addition to the tropical fruits and vegetables native to the islands, various trees and crops have been introduced and developed by means of a government experimental farm, the value of which is gradually being realized by the natives. The most important product and export is copra, and the island government handles the sale of that crop.

Trade and Commerce.—Practically the only means of trade with the rest of the world is provided by the Matson Navigation Company which maintains a four-week schedule between San Francisco, Honolulu, Pago Pago, Suva, Fiji and Sydney, carrying passengers, mail and freight. Copra is the only export of importance. During the fiscal year 1938, 940 tons of copra valued at $66,270 were exported.

Banking.—The only bank in American Samoa is the Bank of American Samoa, founded in 1914 by Executive Order of the Governor. The bank conducts a general commercial and savings business, its capital stock of $25,000 is owned by the Island Government, and its principal officers and directors are naval officers of the island government. The bank is in sound financial condition, and the volume of its business has increased steadily.

Health and Sanitation. — Public health and sanitary conditions are maintained at a high standard by the naval medical officers. There are no civilian physicians in the islands and the medical officers of the Department of Health of the island government treat the entire native population without cost to the people. Hospitalization is modern and native nurses are trained by the naval personnel.

Education. — The average student enrollment for the school year was 2,500. There are 26 schools under the local Department of Education employing 67 teachers, all but six of whom are natives who have been trained as teachers. Special emphasis is given to instruction in the English language, health and sanitation, Samoan arts and crafts, agriculture, and manual and domestic arts. In addition to the public schools there are six parochial schools conducted by missionaries of various denominations, with a total attendance of about 500.

AMERICAN EQUATORIAL ISLANDS

By Richard B. Black

Division of Territories and Island Possessions,
Department of the Interior

DESCRIPTION

In The American Year Book for 1937, a statement by the present writer covered the colonization and development for Pacific aviation of Jarvis, Baker and Howland Islands. This article reviews the material previously published, outlines the developments on these three islands during 1938, and chronicles certain events in connection with other South Sea islands.

Jarvis Island lies 23 miles south of the Equator and 1310 nautical miles almost directly south of Honolulu, T. H. Baker and Howland are 38 miles apart and lie just north of the Equator about 1,000 nautical miles west of Jarvis. The three islands are small and are surrounded by platform reefs of coral formation upon which the sea breaks with force. There are no anchorages since the sea bottom drops away very rapidly to great depths just outside the reefs. Landings are accomplished in surf boats on the somewhat protected western sides away from the prevailing easterly winds.

Vegetation on the islands is limited to a few varieties of bunch-grass, ground-runners and small shrubs. Sea birds of many varieties abound. Shipwrecks of the past whose timbers are strewn on the beaches of all three islands have resulted in a large population of rats.

COLONIZATION

The Bureau of Air Commerce placed four Hawaiian colonists on each island in March, 1935, and maintained them for a year by periodic supply visits using ships of the United States Coast Guard operating out of Honolulu. In May, 1936 an Executive Order of President Roosevelt placed the islands under the Division of Territories and Island Possessions, Department of the Interior.

In July the writer sailed aboard the *Itasca* with materials and colonists for the establishment of permanent American stations which would attempt over a period of time to compile needed weather data, and otherwise improve the islands as emergency landing places in the proposed airways connecting the Hawaiian Islands with the Antipodes. Since July, 1936, ten cruises have carried supplies, water and changes of personnel to the stations. An emergency landing field was prepared on Howland Island between January and March, 1937. Amelia Earhart Putnam and her navigator, Frederick Noonan, were lost at sea during their flight from Lae, New Guinea to Howland Island.

ESTABLISHMENT OF AMERICAN CLAIM

Several Government agencies have been cooperating for a number of years in a study of the logs and records of early American tea clippers, whalers, and guano workers who have operated in the Central Pacific. This study had as its object the presentation of the American claim to many of these islands whose status had not been considered important by the United States and other Governments until the period of modern aviation over long distances of ocean.

Dr. Ernest Gruening, Director of the Division of Territories and Island Possessions, U.S. Department of the Interior, made the eleventh cruise aboard the U.S. Coast Guard Cutter *Taney* during October and November, 1937, and in addition to the regular calls at Jarvis, Baker, and Howland and a courtesy call upon the Naval Administration of American Samoa, stops were made at five islands of the Phoenix Group,—namely, Hull, Sydney, Phoenix, Enderbury and Canton. The eight islands of this group are considered by the United States to be among those to which an American claim could be proved, but after our move into Jarvis, Baker, and Howland, the British Government had erected flags on all of the islands in the Phoenix Group and had established a British radio station on Canton Island in September, 1937.

CANTON AND ENDERBURY ISLANDS

On Feb. 16, 1938, the writer received from Director Gruening orders to establish permanent American stations on Canton and Enderbury Islands, the two northernmost islands of the Phoenix Group. Canton Island is especially suited for seaplane operations since it has a lagoon about nine miles long and four miles wide surrounded by an atoll rim of land from 50 to 600 yards in width. A deep entrance allows access to this lagoon from the sea on the western side of the island, but this entrance as well as the lagoon itself is considerably obstructed by heads of live coral formation. These, however, could be removed with relative ease.

On Feb. 27, 1938, the Coast Guard Cutter *Taney* sailed from Honolulu with supplies, and personnel were aboard for the establishment of the two new camps in the territory occupied by Great Britain but considered by our Government to appertain to the United States.

On March 6, acting under the direct authority of the President as contained in an Executive Order of March 3, the writer raised the American Flag on Enderbury Island, left a staff of carpenters and colonists to start the construction of the permanent station, and proceeded to Canton Island. On the morning of March 7 a landing was effected at the lagoon dock built by the U.S.S. *Avocet* during the National Geographic Society-U.S. Navy Solar Eclipse Expedition in May-June, 1937, and the American party was greeted on the lagoon beach by Geoffrey V. Langdale and Thomas Manning, the British residents, and their Fiji houseboy. The American occupation of the island was explained to Mr. Langdale and he objected officially to the raising of the American flag on land which the British considered to be territory of Great Britain.

The writer explained that he was acting on orders from his Government, and then with proper ceremony raised the American flag on a temporary pole about 100 yards south of the British flag.

A temporary radio station, building materials and supplies, and a colony of seven men were established on Canton and the ship returned to Enderbury to finish the work there. After calling again at Canton the *Taney* proceeded to Howland, Baker, and Jarvis to complete the mission of supply and replacement of personnel.

In May the U.S.S. *Ontario*, station ship of the Naval Administration of American Samoa, carried representatives of Pan American Airways to Canton Island where McKenzie marked with buoys an area in the lagoon for development of seaplane runways, and staked out the locations of the buildings and shops which will make up the airways station. This staked area is located just south of the British and the American camps. The Department of the Interior temporary surveyor returned in August with notes which were used in the preparation of a chart of Canton Island. The Pan American Airways Company has officially announced that it would start the construction of a base at Canton Island early in 1939.

A lighthouse has been constructed on Canton and on Nov. 1, 1938, it was placed in continuous operation. However, because of the fact that no Lighthouse Service employee is in attendance, the light is listed as "unwatched."

JARVIS LIGHT

Early in October the writer was informed by radio of the serious illness of Carl Kahalewai, colonist on Jarvis Island, and immediately proceeded to the island aboard the *Taney* where the youthful victim of appendicitis was picked up on Oct. 7. His service and devotion as a pioneer of the United States, which was terminated by his death aboard the *Taney* on the evening of Oct. 8, have been suitably commemorated by the dedication of Jarvis Light in his honor and by a bronze memorial plaque on the lighthouse and the island which he helped to maintain.

THE DISTRICT OF COLUMBIA

By Warren Reed West

Professor, The George Washington University

JUDICIAL PROCEDURE IN JUVENILE CASES

Probably the most drastic changes affecting the District of Columbia in 1938 were in relation to the courts. On June 1 the President signed an act the essential provisions of which have been under consideration at various times since 1914, providing for a socialized judicial procedure in relation to offenses by and against children. The old juvenile court had been in effect a police court, using a criminal procedure and terminology. Its jurisdiction was limited to children under 17 years of age, included only misdemeanors and petty offenses, and in practical effect did not include cases in which adults had contributed to child delinquency. There was no provision for privacy of hearings. However, in actual administration there had been a modification of procedure, so far as was possible, in the interest of modern concepts in the treatment of child delinquency.

The present act is based on the Standard Juvenile Court Act of the National Probation Association. It applies not only to children who have violated laws or ordinances, but to truants from home or school, children beyond the control of their parents, abandoned, homeless, or neglected children, those associating with vagrants or immoral persons, and those in dangerous employment. The court also has authority to determine paternity and pass upon the guardianship of children, and has jurisdiction of cases in which adults are charged with willfully causing by act or omission a child to come within the provisions of the act. The new procedure abandons the older concept of prosecution and trial and substitutes an investigation by the director of social work, a petition to the court, and ordinarily an informal hearing by the court. In child cases, jury trial on demand is provided for. In adult cases jury trial is required unless waived, in all cases in which the accused is entitled to jury trial. In child cases the discretion of the court in imposing corrective measures is wide, permitting placing on probation, committing to the Board of Public Welfare or to a suitable institution, or other disposition in the interest of the child. No child may be placed in a jail or in contact with adult offenders, except that those of 16 years or above, if a menace to other children, may be placed in a jail if they are separated from adult offenders. Parents may be required to contribute to the support of a child committed to an institution. The judge appoints a director of social work, a supervisor of probation, probation officers, and other employees, from eligible lists of the Civil Service Commission.

MUNICIPAL COURT REFORM

Another court reform of a social nature established a small claims and conciliation branch of the municipal court (approved March 5). No new personnel was needed for this purpose since the effect of the act is merely to provide for cases involving $50 or less an informal and inexpensive procedure before a branch of the same court that previously had jurisdiction. The judges will serve in an order of rotation to be determined by themselves. Actions for recovery of real estate or personalty are excluded from the jurisdiction of the court. Actions are commenced by the filing of a claim in simple form, on oath or affirmation. Clerical aid in preparation of the claim is provided for, except to corporations, partnerships, or associations. Service may be made by the marshal, or by a person appointed by the judge, or by registered mail, the receipt constituting *prima facie* evidence of service. The court fee is limited to not more than $1 for summons, trial, judgment, and satisfaction, with other fees within the jurisdiction of the court. The court may waive costs when the plaintiff is unable to pay. Before trial, the court must attempt to settle by conciliation. The trial is to proceed in such a manner as to do substantial justice without regard to technical rules. The court has authority to stay execution, except in cases of wage claims, and to order installment payments. Persons against whom judgments for wages have been entered may be brought before the court periodically for an examination as to financial status. Appeals to the United States Court of Appeals for the District of Columbia are provided for. In addition to such small claims cases, it is permissible, on consent of both parties, for any judge of the municipal court to certify other cases to the small claims branch for conciliation or for an agreed statement of facts or stipulation, for the purpose of expediting trial, and such cases may on consent of both parties be tried in the small claims branch.

CHANGES IN INSANITY PROCEEDINGS

An act, approved June 8, has altered the methods in insanity proceedings in the District. The act provides that each case shall be examined by a commission of three members, one of whom is a lawyer, the other two being selected from a panel of eight physicians experienced in the study of mental diseases. The new procedure differs from that formerly in effect primarily in the greater reliance upon experts through the commission system, in the fact that a jury is not ordinarily to be used unless demanded, and in the fact that relatives may be required to contribute to the hospital expenses of the patient.

SANITATION AND HEALTH

The practice of cosmetology or beauty treatment in the District has been subject to the regulations of the Health Department. This growing business, however, has reached such proportions as to require a more horough control and an act, approved June 7, accomplishes this control by setting up a Board of Cosmetology of three persons, appointed by the Commissioners for three-year terms. The Board has authority to grant and revoke licenses to beauty shops and schools of cosmetology, and examine practitioners and teachers. Minimum requirements by way of schooling and experience as an apprentice are set up in the act for practitioners, managers of shops, and teachers. Sanitary rules for beauty shops and manicuring establishments are to be made by the Health Department.

On the same day, a companion measure was signed, creating a Board of Barber Examiners of three members, appointed by the Commissioners for overlapping three-year terms. One of the members is to be recommended by the Journeymen Barbers' Union and one by the Associated Master Barbers of the District. The Board has authority to issue certificates to barbers who have been apprenticed for two years, who pass an examination conducted by the Board, and who are free from contagious or infectious diseases, and also to approve apprentices. Annual health certificates are required for renewals. Habitual drunkenness and addiction to habit-forming drugs are made cause for revocation of certificates. Barber schools are subjected to regulations in the act.

The Federal law known as the Harrison Narcotic Drug Act provides, under the guise of taxation, regulations for the sale of narcotics. However, there are a number of situations not covered by that law, and therefore, some 36 States have adopted the Uniform Narcotic Act to provide the necessary supplemental regulation. The District law on this subject was limited to the pharmacy law of 1906 with amendments in 1907 and 1927. On June 20, the Uniform Narcotic Act, adapted to the District, was signed. This act regulates the manufacture, wholesale, retail, professional use, and possession of narcotic drugs.

GAMBLING

Under the old gambling laws of the District it has been difficult to secure convictions, especially in relation to a current gambling game known as "numbers," since witnesses are unwilling to admit to participation in the game. The law has been amended, especially with a view to facilitating convictions. Possession of gambling records of lotteries or policy lotteries is made *prima facie* evidence of conducting such a game, carrying a penalty up to $1,000 or three years' imprisonment or both. The possession knowingly of tickets for lotteries or policy lotteries, is itself made punishable up to $500 or six months' imprisonment or both.

TRAFFIC SAFETY AND REGULATION

The number of traffic accidents has increased enormously in recent years, and the District officials with the cooperation of the newspapers have been carrying on a safety campaign. As a part of the effort to decrease the number of traffic accidents, the annual inspection of automobiles has now been provided for (approved Feb. 18), the expense to be defrayed by a tax on each vehicle of $1 for 1939 and 50 cents a year thereafter. The Commissioners are authorized to refuse or revoke the registration of vehicles not so inspected, or found to be unsafe, and in addition are authorized to make regulations for administration of the act and to impose fines and penalties for violations. There are at present about 180,000 registered cars in the District.

The District has been one of the very few cities not requiring liability insurance for taxicabs. Under an act approved June 29, this has been remedied by a law that requires liability insurance for all taxicabs. Companies with fleets of cabs may be permitted to file a bond or blanket policy, or create a sinking fund, with an upper requirement of $75,000. There are more than 4,700 taxicabs in the District.

TAXATION

Under the old law the right of appeal from tax assessments in many instances did not exist or was inadequate. Real estate and personal tax appeals were heard by the assessor and the assistant assessors. The new tax law sets up a permanent Board of Tax Appeals consisting of one person, appointed by the Commissioners for a four-year term. This act continues the business privilege tax and levies a new tax of 50 cents a barrel on beer. The act repeals that provision of the District revenue act for 1922 which had provided for a 40% contribution by the Federal Government to the District revenues with a corresponding division of certain miscellaneous revenues of the District. As a matter of fact, beginning in 1925, Congress had each year departed from both the 40% contribution and the participation in revenues, substituting a lump-sum contribution in its place.

An act approved June 25 permits property owners to appeal assessments to the Commissioners, who may make adjustments, except those by juries in condemnation proceedings. Previously, only certain types of assessment could be so protested. Another section authorizes the Commissioners to waive interest and penalties on unpaid taxes and assessments. Previously such interest and penalties, perhaps not paid because of litigation affecting the property in question, sometimes amounted to more than the value of the property which thus in effect was removed from the tax rolls. Another section regularizes interest on assessments by fixing it on a monthly basis.

HOUSING AND OTHER LEGISLATION

Other legislation amends the Alley Dwelling Act by permitting the acquisition of sites for low-rent housing projects elsewhere than in squares containing inhabited alleys, and by increasing the borrowing powers of the Alley Dwelling Authority (approved June 25); specifically exempts the secretaries, stenographers, and other office employees of members of Congress from the District employees' compensation law (approved June

15); change the fees for liquor licenses to railroads (approved June 15); reduces from 70% to 55% the amount to be repaid the Federal Emergency Administration of Public Works for certain funds advanced to the District, particularly for the construction of public buildings (approved June 25); amends the zoning act in some of its details and sets up a board of adjustment which may be empowered to make exceptions to the regulations, and a Zoning Advisory Council (approved June 20); broadens the powers of trust companies in relation to the reduction of capital (approved June 20); sets up a commission to design a flag for the District (approved June 16); and exempts collegiate boxing from jurisdiction of the Boxing Commission (approved June 15).

PART THREE

GOVERNMENTAL FUNCTIONS

DIVISION VII

PUBLIC FINANCE AND TAXATION

NATIONAL FINANCE AND THE PUBLIC DEBT

By F. Cyril James

Professor, University of Pennsylvania

GENERAL

The fiscal policies of the Federal Government during the calendar year 1938 were largely influenced by general business conditions. Toward the middle of 1937, after two years of steadily increasing business activity, the Government decided upon substantial reductions in various types of relief and recovery expenditures but (either coincidentally or correlatively) the trend of business activity was simultaneously reversed. During the 12 months ended June, 1938 American business experienced the severest decline of which there is record and, as a result, the Federal Government again returned to a policy that envisaged considerable expenditure for the combined purposes of relief and recovery.

Moreover, the atmosphere in which 1938 drew to a close offered scant hope of any reduction of Federal expenditures in the near future. The President, in his budget message, suggested that it would be unwise to reduce recovery expenditures so soon after an upturn in business activity, a natural opinion in the light of the experience of 1937, and pointed out the need for even greater expenditures on national defense. Earlier in December Chairman Eccles of the Federal Reserve Board, who is generally assumed to be in close touch with the President, had publicly defended the philosophy of public spending as a means for the attainment of business prosperity, and President Roosevelt gave implicit indorsement to that ideal when he suggested that an increase in the national income was of more immediate importance than a reduction of the deficit.

As though to crystallize this attitude of mind, the President's Budget Message to Congress contained a table, reproduced below, in which the actual and estimated expenditures for the period from 1931 to 1940 were reclassified on an entirely new basis. Ordinary Expenditures, which are listed in the upper half of each column, are normally presumed to be covered by actual revenues received from taxation, but the items of Extraordinary Expenditures are regarded as "tangible additions to our national wealth." Inferentially, at any rate, the funds for such a purpose, as well as those for "conservation of our human resources," may legitimately be obtained by means of public borrowing, and the budgets for 1939 and 1940 envisage substantial deficits that will be covered in this fashion. These deficits, which are estimated at $3.-972.000.000 for 1939 and $3,326.000,000

VII. PUBLIC FINANCE AND TAXATION

TABLE I

ACTUAL AND ESTIMATED BUDGETS OF THE UNITED STATES GOVERNMENT FOR EACH FISCAL YEAR FROM 1931 TO 1940 INCLUSIVE

(Classification Include Expenditures from Both General and Emergency Funds)
(In Millions of Dollars)

Receipts	Total	Estimated		Actual							
	1931–40	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931
Internal revenue:											
Income tax	15,789	1,903	2,086	2,635	2,158	1,427	1,099	818	746	1,057	1,860
Tax on unjust enrichment	24	6	6	6	6	....	....	....	....	....	....
Miscellaneous internal revenue	16,035	2,333	2,173	2,280	2,181	2,009	1,657	1,470	858	504	570
Taxes under Social Security Act	2,153	686	611	604	252	....	....	....	....	....	....
Taxes upon carriers and their employes	383	124	109	150	....	....	....	....	....	....	....
Processing tax on farm products	951	....	....	....	....	77	521	353	....	....	....
Railroad Unemployment Insurance Act	5	5	....	....	....	....	....	....	....	....	....
Customs	3,583	404	335	359	486	387	343	313	251	328	377
Miscellaneous receipts	2,110	208	200	208	211	216	180	162	225	117	383
Total receipts	41,033	5,669	5,520	6,242	5,294	4,116	3,800	3,116	2,080	2,006	3,190
Expenditures											
Ordinary expenditures:											
Legislative, judicial and civil establishments:											
Legislative establishment	197	22	21	21	21	22	18	16	16	19	21
Department of Agriculture	1,050	136	152	134	149	119	71	63	66	94	66
Department of Commerce	358	49	31	30	33	37	33	25	33	39	48
Department of the Interior	694	92	95	92	73	62	65	45	54	61	55
Department of Justice	405	50	42	41	37	38	33	31	42	48	43
Department of Labor	197	22	20	26	31	27	18	12	14	15	12
Postoffice Department (deficiency)	876	53	57	47	39	86	64	64	117	203	146
Department of State	159	17	17	17	17	17	16	11	15	17	15
Treasury Department	1,452	170	165	156	155	145	123	111	132	159	136
War Department (non-military)	490	51	54	52	54	47	50	44	43	47	48
District of Columbia (United States share)	64	5	5	5	5	6	5	6	8	10	9
Independent offices and commissions	735	148	120	91	75	69	66	30	44	44	48
Supplemental items	70	50	20	....	....	....	....	....	....	....	....
Total, legislative, judicial and civil	6,747	865	799	712	689	675	562	458	584	756	647
National defense	8,019	1,126	1,017	980	895	880	663	494	633	664	667
Veterans' pensions and benefits	9,050	539	540	572	1,128	2,348	604	554	849	973	943
Interest on the public debt	8,045	1,050	976	926	866	749	821	757	689	599	612
Refunds of receipts	750	71	66	100	56	54	77	64	70	101	91
Agricultural adjustment program	3,820	694	703	362	527	533	712	289	....	....	....
Social security	2,915	928	833	678	448	28	....	....	....	....	....
Railroad retirement	390	127	112	145	6	....	....	....	....	....	....
Government employes retirement funds	428	87	75	73	47	41	21	21	21	21	21
Other (commodity credit losses, settlement of war claims, etc.)	171	....	....	98	1	1	a3	14	5	49	6
Supplemental items	180	50	130	....	....	....	....	....	....	....	....
Total, national defense, etc.	33,768	4,672	4,452	3,934	3,974	4,634	2,895	2,193	2,267	2,407	2,340
Total, ordinary expenditures	40,515	5,537	5,251	4,646	4,663	5,309	3,457	2,651	2,851	3,163	2,987

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a Excess of credits, deduct.

Receipts	Total	Estimated		Actual								
	1931–40	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931
Extraordinary expenditures:												
Supplemental item:												
New national defense program	210	210	....	....	....	....	....	....	....	....	....
Public works:												
Public highways	2,424	213	232	237	351	244	317	268	178	210	174
Tennessee Valley Authority	263	40	43	42	42	49	36	11	....	....	....
Reclamation	459	68	93	65	52	50	41	25	25	26	14
Rivers and harbors, improvement	905	60	83	98	148	150	133	76	51	55	51
Flood control	510	101	98	61	45	36	31	41	34	28	35
Public buildings	740	62	60	77	76	68	58	79	106	86	68
Grants to public bodies, including administration	1,523	366	392	190	273	234	49	19	....	....	....
Other	1,128	134	228	110	115	83	101	106	78	94	79
Total	7,952	1,044	1,229	880	1,102	914	766	625	472	499	421
Unemployment relief:												
Direct relief	4,048	42	97	154	184	588	1,916	716	351	....	....
Work relief (WPA, etc.)	7,198	7	1,604	1,516	1,957	1,298	11	805	....	....	....
Civilian Conservation Corps	2,550	285	290	326	386	486	436	332	9	....	....
Supplemental items	2,435	1,685	750	....	....	....	....	....	....	....	....
Total	16,231	2,019	2,741	1,996	2,527	2,372	2,363	1,853	360	....	....
Loans, subscriptions to stock, etc. (net)	3,339	120	271	104	150	71	424	882	181	873	263
Supplemental item	65	65	....	....	....	....	....	....	....	....	....
Total, extraordinary expenditures	27,797	3,458	4,241	2,980	3,779	3,357	3,553	3,360	1,013	1,372	684
Total expenditures, exclusive of debit retirement	68,312	8,995	9,492	7,626	8.442	8.666	7.010	6,011	3,864	4,535	3,671
Net deficit	27,279	3,326	3,972	1,384	3,148	4,550	3,210	2,895	1,784	2,529	481
Increase in gross public debt	28,273	3,326	3,967	740	2,647	5,077	1,648	4,514	3,052	2,686	616
Gross public debt at the end of each fiscal year	....	44,458	41,132	37,165	36,425	33,778	28,701	27,053	22,539	19,487	16,801

NOTE—This statement is on the basis of the daily Treasury statement as revised on July 1, 1938.

for 1940, are larger than the actual figures for any preceding year, if the fiscal year ended June, 1936, when the payment of the veterans' bonus unexpectedly enlarged the Government's outlay, be excluded. In view of the fact that the deficit for the fiscal year ended June, 1938 amounted to no more than $1,384,000,000, the lowest figure since 1932, this reversal of trend is highly significant.

REVENUE AND TAXATION

During the second half of 1937 and the first quarter of 1938, the revenues received by the Treasury did not suffer any diminution as a result of the business recession. Indeed the aggregate income of the Treasury, which averaged $1,600,000,000 a quarter, was the largest in many years.

Subsequently, however, the monthly receipts declined somewhat, as Table II indicates. In the last quarter of the year tax receipts amounted to about $1,420,000,000 but the reduction was primarily due to the diminished yield of customs duties and miscellaneous internal revenue taxes. Income and social security taxes showed very little decline, although reduced employment affected the latter somewhat as the year drew to a close. Moreover, in addition to the regular tax receipts, the Treasury received substantial aid during 1938 from the contributions of the several States to the unemployment trust funds, while in April the sum of $1,200,000,000 was released from the inactive gold account and added to the working balance in the general fund.

In view of the fact that 1938 marked the end of a quarter of a century of Federal income taxes in the United States, it is worth while to point out that this was the first year since the beginning of the depression that did not witness an increase in the levies imposed upon corporations and individuals. On the contrary, in the case of corporations, enterprises with annual incomes of $25,000 or less were exempted from the undistributed profits tax imposed in the previous year, while the rate on corporations with larger incomes was reduced to the nominal rate of 2½%. In the case of individuals, an amendment to the revenue laws removed the arbitrary limit of $2,000 previously applied to capital losses and permitted deductions for such losses on a basis more nearly comparable with that applied in the calculation of capital profits for income tax purposes. To this extent, therefore, the tax burden of both individuals and corporations has been levied on a distinctly more equitable basis during 1938, and there has been much less discussion of the punitive uses of taxation than was heard in previous years.

Although it would betray an utter ignorance of history to suggest that the slogan of "soak the rich" has been permanently discarded, the President's Budget Message in September made no mention of any new taxation along these lines. Instead, it suggested the need for careful study of our whole fiscal machinery and the development of "new taxes more scientifically planned to care for the

TABLE II

GROWTH OF THE PUBLIC DEBT

(in millions of dollars)
at end of each month

	Total Receipts	Total Expenditures	Surplus (+) or Deficit (−)	Trust Account Receipts (+) or Expenditures (−)	General Fund Balance	Gross Debt
1937						
January.....	284	631	−348	+ 72	1,726	34,501
February....	275	553	−279	− 7	1,539	34,600
March......	1,012	754	+257	− 98	1,826	34,727
April.......	363	708	−345	+ 8	1,702	34,939
May........	335	552	−217	− 3	1,754	35,211
June........	868	1,300	−432	+ 20	2,553	36,425
July........	409	659	−249	+ 44	2,639	36,716
August......	453	556	−103	+ 37	2,902	37,045
September...	788	680	+108	+ 20	2,860	36,875
October.....	333	606	−283	+ 18	2,676	36,956
November...	327	494	−167	− 37	2,608	37,094
December...	866	678	+188	− 11	2,973	37,280
1938						
January.....	335	533	−198	—	2,950	37,453
February....	349	515	−166	+ 11	2,975	37,633
March......	959	748	+211	+ 31	3,140	37,557
April.......	273	642	−369	− 36	2,689	37,511
May........	375	568	−193	+158	2,567	37,423
June........	774	930	−156	+ 63	2,216	37,165
July........	311	763	−451	+325	2,116	37,192
August......	487	683	−195	− 63	2,260	37,594
September...	711	751	− 40	− 41	2,978	38,394
October.....	332	769	−437	− 3	2,569	38,424
November...	382	678	−296	− 6	2,447	38,604
December...	...	...	....	....	....	....

defense and agricultural programs." Nor were such taxes regarded as additional to those already levied, since it was specifically pointed out that their adoption would permit the repeal of existing excise levies, while President Roosevelt went out of his way to emphasize the fact that an increase of the aggregate national income to a level approaching that received in 1929 would raise the Federal revenues received from present taxes to a point at which they would be more than adequate. In a sense, therefore, this change in Federal taxation policy marks 1938 as prominently as the reduction of recovery expenditures characterized 1937; it is to be hoped that the change is more enduring.

FEDERAL EXPENDITURES

Between June, 1937 and March, 1938 the aggregate volume of Federal expenditures was reduced to a level substantially lower than that which had characterized the preceding years, and this reduction must be attributed primarily to diminished spending for the much-debated purposes of relief and recovery. Appropriations for W.P.A. and other similar activities declined from $689,000,000 in the first quarter of 1937 to $495,000,000 during the first quarter of 1938, while expenditure under the Agricultural Adjustment Act fell from $194,000,000 to $106,000,000. The normal expenses of government, by contrast, remained almost constant at slightly more than $500,000,000 while the cost of national defence actually rose from $206,000,000 to $246,000,000.

The remaining nine months of 1938 witnessed a sharp reversal of policy as a result of the severe decline in the aggregate volume of business activity which had commenced late in the summer of 1937. Increasing unemployment and marked declines in the prices of several commodities led the Government to adopt, once again, the policy of large expenditures for the purpose of stimulating business, so that appropriations for W.P.A. and similar purposes, which had amounted to $1,019,000,000 during the last six months of 1937, rose to $1,502,000,000 during the last six months of 1938. Expenditures under the Agricultural Adjustment Act similarly rose from $79,000,000 to $303,000,000 while aggregate expenditures for social security increased from $141,000,000 to $173,000,000. Most of the other items of expenditure also showed some increase, the most significant being national defence which rose from $476,000,000 to $540,000,000, but it is interesting to notice that aggregate interest payments on the Federal debt actually fell from $432,000,000 to $425,000,000, despite an increase of more than $1,000,000,000 in the gross amount of that debt.

Such a complete reversal of the fiscal policies adopted during the summer of 1937 naturally resulted in a rapid growth of the Federal deficit despite the favorable position that the Treasury enjoyed in the matter of aggregate revenues. As a result of diminished expenditure during the first nine months of the fiscal year ended June, 1937, the net deficit for that year amounted to only $1,384,000,000 while, as already pointed out, the estimated deficit at the end of the present fiscal year (June, 1939) will amount to $3,972,000,000. Looking at the matter another way, the net deficit during the last six months of the calendar year 1937 was only $607,000,000 while that for the last six months of 1938 was almost three times as large.

In view of the recent statements of governmental policy, which have every appearance of authority, this renewed growth of the Federal deficit appears to be deliberate and it certainly characterises the budgetary estimates for the immediate future. It is, therefore, interesting to notice that, during December, 1938, a study of the American Institute of Public Opinion indicated that 61% of the individuals polled regarded the present level of governmental spending as excessive. When the figures are classified by political parties, 89% of the Republicans are found to be in opposition to the policy and 46% of the Democrats and, although it is impossible to predict the influence of this changing sentiment upon fiscal policies, it is significant that, in 1934, only 40% of those who were questioned went on record as opposed to the level of government expenditures at that time.

GROWTH OF THE PUBLIC DEBT

The perennial deficit, which is recorded from month to month in the columns of Table II, has necessarily involved a steady growth in the aggregate debt of the United States Government. At the beginning of 1937, this debt amounted to $34,501,000,000, exclusive of obligations that are guaranteed by the Federal Government; a year later it had grown to $37,280,000,000 and by the beginning of 1939 it stood at $38,889,000,000.

During 1938, therefore, the interest-bearing direct debt of the United States Government increased by some $2,200,000,000 of which $1,300,000,000 represented additions to publicly-offered issues and $900,000,000 took the form of special obligations issued to government agencies and trust funds. Outstanding obligations of Federal agencies, which are fully guaranteed by the United States Government, also increased by $350,000,000. Moreover, during the year, about $3,000,000,000 of Treasury notes were retired through exchanges for new issues, and another $1,000,000,000 of new notes were issued, one-third as exchanges and two-thirds for cash. New issues of Treasury bonds amounted to some $3,500,000,000 of which more than three-fourths were issued in exchange for Treasury notes while the outstanding volume of United States savings bonds increased by $480,000,000. As a result of a further reduction of $650,000,000, the outstanding amount of Treasury bills fell to $1,300,000,000 on an average, as compared with a level of $2,300,000,000 in the middle of 1937.

These developments in regard to the structure of the public debt, statistics of which are presented in Table

TABLE III

VOLUME AND KIND OF THE OBLIGATIONS OF THE U.S. GOVERNMENT AT VARIOUS DATES

(in millions of dollars)

Type of Obligation	June 30 1932	June 30 1934	June 30 1936	June 30 1937	Dec. 31 1937	June 30 1938	Dec. 31 1938
Direct Obligations							
Bonds:							
Pre-war	753	753	79	79	79	79	....
Treasury	13,460	15,679	17,168	19,936	20,476	21,846	....
U. S. Savings	....	....	316	800	964	1,238	....
Treasury Notes	1,261	6,653	11,381	10,617	10,547	9,147	....
Treasury Bills	616	1,404	2,354	2,303	1,952	1,154	....
Adjusted Service Issues	105	118	1,071	926	876	868	....
Social Security Issues	....	....	19	579	1,188	1,601	....
Other Obligations bearing interest	240	356	601	560	626	644	....
Total Interest Bearing Debt	*19,161	*26,480	32,989	35,800	36,708	36,577	....
Matured Debt	60	54	169	119	99	141	....
Other Obligations	266	518	620	506	472	447	....
Total Direct Obligations	19,487	27,053	33,778	36,425	37,279	37,165	....
Guaranteed Obligations							
Federal Farm Mortgage Corp.	....	312	1,422	1,422	1,410	1,410	....
Home Owners' Loan Corp.	....	134	3,044	2,987	2,937	2,937	....
Reconstruction Finance Corp.	....	235	252	255	297	299	....
Commodity Credit Corp.	....	....	....	....	....	206	....
Total Guaranteed Obligations	....	681	4,718	4,665	4,645	4,853	4,992

* Includes certificates of indebtedness, not shown separately, amounting to $2,726 millions in 1932 and $1,517 millions in 1934.

III, call attention to the greater use that is now being made of long-term securities. Since the refunding of the First and Fourth Liberty Loan bonds in 1935 there has been a rapid increase in Treasury bonds outstanding and a steady decline in both the absolute and relative volume of notes. The relative importance of the short-term Treasury bill has also diminished somewhat. As a result the aggregate amount of Federal direct obligations that will mature in five years or less has decreased to a point at which it accounts for less than 40% of the outstanding debt. The major increase in the aggregate volume of debt has occurred in the longer maturities, and issues maturing more than 15 years from the present time now comprise 15% of the total as against a figure of less than 4% at the end of 1934.

Moreover, as the Board of Governors of the Federal Reserve System point out in the course of a recent study, there has also been a conscious effort on the part of the Treasury to arrange its debt-maturities in logical and convenient fashion. As a result there is not at present any large amount of issues maturing or callable within a single year as was the case when there were $6,000,000,000 of Fourth Liberty Loan bonds callable between 1933 and 1938. Some obligations are planned to mature in each calendar year from 1939 to 1963 but, if the issues of bills and notes which naturally fall due in the near future (and will probably be

TABLE IV

AVERAGE YIELD ON LONG-TERM U.S. BONDS

	1936	1937	1938
January	2.80	2.47	2.65
February	2.77	2.46	2.64
March	2.71	2.60	2.64
April	2.68	2.80	2.62
May	2.66	2.76	2.51
June	2.66	2.76	2.52
July	2.65	2.72	2.52
August	2.61	2.72	2.51
September	2.60	2.77	2.58
October	2.62	2.76	2.48
November	2.53	2.71	2.50
December	2.51	2.67	2.49

TABLE V

AVERAGE PRICE ON LONG-TERM U.S. BONDS

	1936	1937	1938
January	102.5	104.6	102.3
February	102.8	104.6	102.4
March	103.6	102.9	102.5
April	103.9	100.3	102.7
May	104.2	100.7	104.0
June	103.7	100.7	103.9
July	103.4	101.3	103.8
August	103.9	101.2	104.0
September	103.8	100.6	103.0
October	103.4	100.7	104.3
November	104.6	101.3	104.0
December	104.4	101.9	104.1

TABLE VI

AVERAGE YIELD ON SHORT-TERM OBLIGATIONS OF THE UNITED STATES GOVERNMENT

	1936		1937		1938	
	New Issues of Treasury Bills	3–5 Year Treasury Notes	New Issues of Treasury Bills	3–5 Year Treasury Notes	New Issues of Treasury Bills	3–5 Year Treasury Notes
January	.10	1.21	.36	1.18	.10	1.13
February	.08	1.15	.38	1.22	.08	1.09
March	.11	1.09	.58	1.42	.07	1.01
April	.10	1.10	.70	1.59	.08	.94
May	.18	1.09	.65	1.48	.03	.77
June	.23	1.12	.58	1.54	.02	.67
July	.14	1.17	.49	1.44	.05	.70
August	.18	1.12	.52	1.45	.05	.71
September	.16	1.09	.53	1.50	.10	.82
October	.13	1.12	.41	1.42	.02	.68
November	.10	.99	.15	1.31	.02	.71
December	.21	1.04	.10	1.27	.01	.67

TABLE VII

DISTRIBUTION OF UNITED STATES OBLIGATIONS, DIRECT AND FULLY GUARANTEED, BY TYPES OF INVESTORS

(Amounts in Millions of Dollars)

	June 30, 1930		June 30, 1935		June 30, 1938	
	Amount	%	Amount	%	Amount	%
Obligations outstanding	15,138	100.0	31,033	100.0	38,316	100.0
Holdings of:						
Member banks						
New York City	1,147	7.6	3,809	12.3	3,740	9.8
Other reserve cities	1,686	11.1	5.136	16.6	5,639	14.7
Country banks	1,229	8.1	2,484	8.0	2,964	7.7
Non-member banks*	1,436	9.5	2,829	9.1	4,382	11.4
Total commercial banks	5,498	36.3	14,258	46.0	16,725	43.6
Federal Reserve Banks	591	3.9	2.433	7.8	2,564	6.7
U. S. Govt. Agencies	196	1.3	1,344	4.3	2,098	5.5
Life Insurance Companies	250	1.7	1,857	6.0	3,942	10.3
Others	8,603	56.8	11,141	35.9	12,987	33.9

* Figures include savings banks and are partly estimated.

funded into longer-term obligations) be excluded, the maximum amount in any one year is $2,663,000,000 in 1954. In only six of the next 25 years will the aggregate of maturing issues amount to as much as $2,000,000,000.

INTEREST RATES AND YIELDS

Even more amazing than these changes in the structure of the debt is the fact that, despite the steady lengthening of the average maturity, the interest on the public debt fell to new low levels during 1938. The refunding of securities bearing high coupon rates, and the flotation of new issues at lower rates, has brought about a reduction in the average interest rate on the whole debt from about 3¾% at the end of 1930 to 3% at the end of 1934, while the level has continued to move downward to a point somewhere between 2½% and 2⅝% at the end of 1938.

This, however, does not tell the whole story. Toward the end of 1938 there were published in the *Federal Reserve Bulletin* the new averages of prices and yields on government obligations which are reproduced, in part, in Tables IV and V. These figures are designed to include only those government obligations that mature in not less than 12 years, a substantial extension of the eight-year maturities covered by earlier indexes, but the steady decline in the average yield is still evident. During the last three months of 1938 the average yield on these long-term obligations declined to approximately 2.49%, the lowest point recorded by the index for any comparable period, while the average price of the bonds had once again risen above 104.

Even more impressive is the record of interest rates and yields on short-term government obligations, which is presented in Table VI. The rate on 3-5 year Treasury notes has declined steadily from the high point of 1.59% reached in April, 1937, averaging only 1.13% during January, 1938 and declining to the incredibly low level of 0.67% during December of that year. This tendency was undoubtedly an indirect result of the slump in business activity, the heavy gold imports during the year, and the unsually easy condition that ruled in the money market, factors which affected the rate of interest on new issues of Treasury bills even more drastically. Whereas the yield on 3-5 year notes declined by slightly more than 50% during the 21 months that separated April, 1937 from December, 1938, the rate on new issues of Treasury bills declined to *one-seventieth* of its former level during the same period!

No comment on the easy-money policies that have been pursued of late could be half as expressive as this factual record of Treasury bill rates of interest during the three years from 1936 to 1938. Moreover, the incredibly low yield of .01%, which is recorded as the average for December, 1938, does not fully describe the situation that had developed at the end of the year. On two issues of 91-day Treasury bills offered during that month, the Government received several offers from lenders to take over the bills at a slight premium. The Treasury was actually paid to borrow money and, although it is undoubtedly true that many individuals and institutions are anxious to hold such bills on the dates on which property taxes are assessed by state authorities, there has never been a previous occasion on which they were willing to pay the Government a premium for that privilege. Well might *The New York Times* point out (Dec. 24) that "the United States Treasury has achieved the ultimate triumph of cheap money—a negative interest rate."

DISTRIBUTION OF GOVERNMENT OBLIGATIONS

In the light of the parodoxical situation represented by a growing debt of lengthening maturity purchased at steadily diminishing yields, it is of particular interest to notice the way in which the outstanding obligations are distributed among the various types of holders. Information on this aspect of the problem is presented in Table VII, from which it appears that some 45% of the total outstanding Federal obligations have been held by banking institutions during the period from 1935 to 1938. If Federal Reserve Bank holdings are added to this figure, it is apparent that considerably more than half the outstanding government debt is at present in the hands of the American banking system.

Within the banking system, however, the interest of various groups of institutions has diverged widely. The Federal Reserve Banks, although they held slightly more Federal obligations in June, 1938 than was the case three years earlier, have diminished in relative importance. In the case of most member banks also, the holdings of government obligations have increased less rapidly than the aggregate amount of outstanding debt, while the large New York banks actually reduced their holdings during the period. Only in the case of non-member banks, and particularly of mutual savings institutions, has the aggregate investment in government obligations increased at a more rapid rate than the total debt although, once we go outside the banking system, it is apparent that a similar development has occurred in the case of large life insurance companies.

Most interesting of all are the figures showing the extent to which government obligations are being taken over by agencies and trust funds of the United States Government itself. In 1930 this figure was insignificant, accounting for considerably less than 2% of the outstanding debt, and even in 1935 the aggregate holdings of $1,344,000,000 accounted for only 4.3% of the total. This growth, however, was but the initial evidence of a process that may play an important part in the future fiscal policies of the United States, particularly if the vast reserve provisions of the Social Security Act remain in their present form and no change is made in regard to the handling of unemployment and other trust funds. In June, 1938 the aggregate holdings of government agencies and trust funds had reached $2,098,000,000 and the figure had risen to $3,200,000,000 by the end of December. According to the estimates presented in the recent Budget Message to Congress, the aggregate holdings of government trust funds, together with the amount of special obligations issued to governmental agencies, will exceed $5,000,000,000 by June 30, 1940, an amount not far short of one-eighth of the estimated Federal debt at that time.

ANALYSIS OF FISCAL POLICY

Although the United States is now approaching the end of a decade of unbalanced Federal budgets, the developments during 1938 invite anew some critical analysis of the political philosophy that has produced such fruit. In 1937, business activity slumped precipitously, despite four years of generous public spending to encourage permanent recovery; in 1938, the Government speedily returned to spending policies in the hope that a new revival might be accelerated. Certainly there is no evidence here of governmental doubt regarding the wisdom of the policies that have been espoused, and the President has flatly contradicted those who would endeavour to draw such an inference. "We have been buying real values," he insisted in his Budget Message at the end of the year. "Let me repeat: the greater part of the budgetary deficits that have been incurred have gone for permanent, tangible additions to our national wealth. The balance has been an investment in the conservation of our human resources, and I do not regard a penny of it as wasted."

In appraising the outlook for the future that is suggested by so frank an espousal of the spending policy, it may readily be admitted that many economists have approved the policy of governmental deficits during depression that are repaid out of the fiscal surpluses during prosperity. It is not the principle that is at fault but the application of it, since there is no warrant in the principle of cyclical-stabilization for the claim that governmental spending will permanently cure all the ills that affect society. Although comparisons with the public debt of other countries are rendered difficult by the multitude and diversity of state and local debts in this country, all of the evidence suggests that the American citizen is rapidly losing the enviable position he once enjoyed. Debts no longer rest so lightly upon his shoulders that he is unconscious of them.

Nor does it explain away the problem to insist that the growth of the Federal debt has been offset by an even greater diminution of state and private debts since 1929. Even though we ignore the controversy that rages as to the precise validity of this contention, it can not indicate more than the probability that the Government of the United States has come to play a more important part in the economic life of the country than it did ten years ago. That hypothesis can readily be admitted, and there seems to be little chance that the volume of governmental activity will show any marked diminution in the immediate future. Small hope can be held out regarding any prompt reduction in the present level of fiscal expenditures, although smaller payments will be required for relief when business improves sufficiently to provide more opportunities for employment. Nor will economies of public administration within the Federal Government offer any substantial savings while, on the other hand, armament expenditures seem destined to grow rapidly.

Taxation must, therefore, tend to remain at the present high level for some time to come and, in the light of the fiscal anarchy that now exists in the United States, it would seem that the most fruitful field for fiscal savings is to be found in some efficient coordination of the various Federal, state and local authorities that now burden the citizen with taxes. No other modern country prides itself on so great a diversity of taxing authorities; none wastes so much of its aggregate revenues on the maintenance of competing and overlapping bureaucracies. Yet little has been done, as yet, to explore this route towards the reduction of aggregate fiscal burdens.

One other element in the situation also demands serious consideration. It has already been pointed out that more than half of the aggregate Federal debt is held by banking institutions, and this process of financing deficits by means of loans from commercial and Federal Reserve Banks is not unrelated to the growth of excess reserves during the past few years. Because of the diminution in business needs for bank funds, this process has not yet proved inflationary, in the sense of rapidly raising the general level of prices, but there can be no doubt that the danger exists. If an international war, or any other factor, should generate an intense business boom, the responsibilities of the Board of Governors of the Federal Reserve System might prove exceedingly arduous, since it would not be easy to prevent an increase in the volume of deposits and still harder to regulate the increase in the velocity of circulation. Such an inflationary boom does not appear probable in the immediate future, but it is well to remember while there is yet time that the financing of deficits by means of banking operations may be an even more dangerous proceeding than the growth of the national debt itself.

STATE FINANCES

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GENERAL

Few of the States had legislative sessions in 1938 and, as a consequence, no drastic changes were made in tax laws. Some changes, however, were made, in special sessions which were held in some States. Several amendments to state constitutions were submitted to the electorate Nov. 8, 1938. These, together with changes in legislation, will be noted under the following topics.

SALES TAXES

Few changes were made in sales tax legislation. In Louisiana a general sales tax of 1% was substituted for the former tax of 2% which applied to luxuries. The present status of the sales tax existing in the various States is shown in the following table:

State	
Alabama	Levy of 2% upon retail sales and amusements; ½ of 1% upon sale of automobiles.
Arizona	Levy upon gross proceeds of sales. Manufacturers, 1%; Motor carriers, 1%; Mining, etc., 1%; Electrical energy carriers, telephones, 1%; Sale of tangible personal property at retail, 1½%.
Arkansas	Levy upon retail sale of tangible personal property of 2%. Extends to utility services.
California	Levy upon privilege of selling tangible personal property at retail; 3% on gross sales. Extends to use of property purchases without state.
Colorado	Levy of 2% upon receipts from sale of tangible personal property at retail. Extends services by utilities, professions, trades, hotels, etc.
Idaho	Levy of 2% upon receipts from sale of tangible personal property at retail. Extends to utility services.
Illinois	Levy at 3% of gross sales for privilege of selling tangible personal property at retail. Extends to utility services.
Indiana	Levy upon gross income. Manufacturers, ¼%; wholesalers, ¼%; utilities, 1%; banks, etc., 1%; professions and all others, 1%.
Iowa	Levy of 2% upon gross receipts from retail sales.
Kansas	Levy of 2% on retail sales of tangible personal property, utility services and amusements.
Louisiana	Levy of 1% on retail sales of tangible personal property.
Maryland	Levy of 1% on retail sales of tangible personal property.
Michigan	Levy of 3% on gross sales for privilege of engaging in sale of tangible personal property at retail.
Mississippi	Levy upon privilege of engaging in business. Natural products, 2%; gas, 2½%; manufactures, ¼ to 1%; wholesalers, ⅛%; retailers, 2%; utilities, 2%; contractors, 1%.
Missouri	Levy upon privilege of selling tangible personal property. 1% of gross receipts.
New Mexico	Occupational tax on retail dealers. Rate ranges from ¼ to 1% to 2%, depending on nature of business.
New York	Levy of 1% upon retail sales.
North Carolina	Levy on privilege of merchandising. Wholesalers, 1/25% of gross sales, minimum, $25 per year; retailers, $1 plus 3% of gross sales.
North Dakota	Levy of 2% on receipts of retail sales. Extends to public utility services.
Ohio	3% upon receipts from retail sales.

State	
Oklahoma	Levy upon sales of tangible personal property and certain specified services and intangibles at 2%.
South Dakota	Levy upon gross income. Manufactures, ¼%; salaries 1% to 2%; wholesalers, ¼%; retailers, 3%.
Utah	Levy on sale of tangible personal property. 2% on receipts. Extends to utility services.
Washington	Levy upon gross receipts for privilege of engaging in business. Natural products, 3/10% to 1%; manufacturers, ¼%; wholesalers, ⅛%; retailers, ½%; utilities, ½% to 3%.
West Virginia	Levy upon gross sales for privilege of engaging in business. Natural products, 1% to 6%; manufacturers, 3/10%; wholesalers, 3/20%; utilities, 1% to 3%; retailers, 2%.
Wyoming	Levy upon receipts from retail sales at rate of 2%.

USE TAXES

The evasion of the sales tax through the purchase of goods without the boundary of a State has led to the development of use taxes. These are designed to place the same tax burden upon goods purchased without the State as is occasioned by the sales tax within. The use taxes in the States follow:

State	
California	3% of sales price of tangible personal property sold to user or consumer.
Colorado	2% on purchase price of use, storage or consumption of tangible personal property.
Iowa	2% on the purchase price of tangible personal property.
Kansas	2% of purchase price paid by consumers.
Michigan	3% of retail price on purchase without state.
Mississippi	Tax at same rate as sales tax upon privilege of using goods purchased without the state.
North Dakota	2% of retail selling price for the use of motor vehicles in state.
Ohio	Tax upon storage, use or consumption of tangible personal property upon which sales tax has not been paid.
Oklahoma	2% upon purchase price of goods purchased without state.
Utah	2% of sales price of goods purchased without the state.
Washington	2% upon the value of an article purchased without the state for the privilege of using it.
Wyoming	2% upon the sales price for the use, storage or consumption of tangible personal property.

TAXES ON OLEOMARGARINE

Taxes on oleomargarine continue as in previous years. Such taxes are not important from the standpoint of revenue but have been used primarily to protect the dairy industry from the competition of oleomargarine. The taxes are as follows:

State	
Alabama	10 cents per pound.
Arkansas	10 cents per pound.
California	10 cents per pound.
Colorado	10 cents per pound; $25 license on manufacturer; $25 license on wholesaler.
Florida	10 cents per pound.
Georgia	10 cents per pound.
Idaho	5 cents per pound, uncolored; 10 cents per pound colored. $200 license on wholesaler; $50 license on retailer.
Iowa	5 cents per pound.
Kansas	10 cents per pound.
Maine	10 cents per pound.
Minnesota:	10 cents per pound; $1 license on all producers and dealers.
Nebraska	15 cents per pound; $100 license on manufacturers; $50 license on wholesalers; $5 license on retailers.
New Mexico	10 cents per pound.
North Carolina	10 cents per pound.
North Dakota	10 cents per pound; $10 license on manufacturers; $5 license on wholesalers; $2 license on retailers.
Oklahoma	10 cents per pound; license ranging from $10 on manufacturers to $2 on boarding houses.
Tennessee	10 cents per pound; license ranging from $5 on manufacturers to $1 on boarding houses.
Utah	5 cents per pound, uncolored; 10 cents per pound colored; $5 license on retailers.
Washington	15 cents per pound.
Wisconsin	6 cents per pound; $1,000 license on manufacturer; $500 license on wholesaler; $25 license on retailer, hotel, restaurant; $5 license on bakery, confectionery.
Wyoming	10 cents per pound.

PERSONAL INCOME TAXES

Practically no changes have been made in personal income taxes. Where necessary, emergency rates were continued. Maine created a commission to study income taxation while Mississippi made slight increases in the exemptions. The States which use the personal income tax, with rates, are as follows:

State	Rate %	Highest Bracket Begins	Exemption		
			Single	Head of Family	Dependents
Alabama	1½–5	$ 5,000	$1,500	$3,000	$300
Arizona	1–4½	10,000	10 from tax	20 from tax	4 from tax
Arkansas	1–5	25,000	1,500	2,500	400
California	1–15	250,000	1,000	2,500	400
Colorado	1–6	10,000	1,000	2,500	400
Delaware	1–3	10,000	1,000	2,000	200
Georgia	1–7	20,000	1,000	2,500	400
Idaho	1½–8	5,000	700	1,500	200
Iowa	1–5	4,000	10 from tax	20 from tax	5 from tax
Kansas	1–5	4,000	10 from tax	20 from tax	5 from tax
Kentucky	2–5	7,000	750	1,500	200
Louisiana	2–6	5,000	1,000	2,500	400
Maryland	½		1,000	2,500	400
Massachusetts	1½ to 6 and 10% of tax	Type of income	2,000	2,500	250
Minnesota	1–10	12,500	10 from tax	30 from tax	5 from tax
Mississippi	2½–6	15,000	1,000	2,500	400
Missouri	1–4	9,000	1,000	2,000	200
Montana	1–4	6,000	1,000	2,000	300
New Mexico	1–4	100,000	1,000	1,500	200
New York	2–7	9,000	1,000	2,500	400
North Carolina	3–6	6,000	1,000	2,000	200
North Dakota	1–15	15,000	5 from tax	15 from tax	2 from tax
Oklahoma	1–9	8,000	850	1,700	300
Oregon	2–7	5,000	800	1,500	300
Pennsylvania	2–8	100,000	1,000	1,500	400
South Carolina	2–5	6,000	1,000	1,800	200
South Dakota	2–8	318,000	6 from tax	12 from tax	2 from tax
Utah	1–5	5,000	600	1,200	300
Vermont	2 on net income, 4 on interest and dividend		1,000	2,000	250
Virginia	1½–3	5,000	1,000	2,000	250
Washington	3–7	3,000	1,000	2,500	400
West Virginia	1–4	3,000	1,000	2,000	300
Wisconsin	1–7 & 60% of tax	12,000	8 from tax	17.50 from tax	4 from tax

TAXATION OF CHAIN STORES

The regulative tax upon chain stores continues much as in previous years. In Colorado an initiative measure which proposed to repeal the tax was defeated at the Nov. 8 election. The status of the tax in the different States is on next page.

GASOLINE TAXES

Gasoline taxes were unchanged. A proposed amendment in Arkansas to limit the receipts from gasoline and motor vehicles to $8,985,000 was defeated. Michigan adopted an amendment to restrict the use of receipts from gasoline and motor vehicle taxes to highway purposes. The rates upon gasoline in the different States will be found on next page.

TOBACCO TAXES

Only minor changes have been made in the taxes levied upon tobacco. The rates in the different States are given on next page.

DEATH DUTIES

Little change has occurred in the use of death duties by the States. Some States still use the inheritance

State	Maximum Rate	Applicable to Stores Above
Alabama	$ 75	20
California	500	10
Colorado	300	24
Delaware	$10 plus 10 cents for each $100 of sales in excess of $5,000	
Georgia	200	40
Florida	400	16
Idaho	500	19
Indiana	150	20
Iowa	155	50
Kentucky	300	50
Louisiana	550	500
Maine	50	25
Maryland	150	20
Michigan	250	25
Minnesota	350	151
Mississippi	300	40
Montana	30	10
North Carolina	225	200
Pennsylvania	500	500
South Carolina	150	30
South Dakota	250	40
Tennessee	3 upon each 100 sq. ft. floor space	
Texas	750	50
West Virginia	250	75
Wisconsin	100	25

State	Cents per Gallon 1937	State	Cents per Gallon 1937
Alabama	6	Nebraska	6
Arizona	5	Nevada	4
Arkansas	6½	New Hampshire	4
California	3	New Jersey	3
Colorado	4	New Mexico	5
Connecticut	3	New York	4
Delaware	4	North Carolina	6
Florida	7	North Dakota	3
Georgia	6	Ohio	4
Idaho	5	Oklahoma	4
Illinois	3	Oregon	5
Indiana	4	Pennsylvania	4
Iowa	3	Rhode Island	3
Kansas	3	South Carolina	6
Kentucky	5	South Dakota	4
Louisiana	7	Tennessee	7
Maine	4	Texas	4
Maryland	4	Utah	4
Massachusetts	3	Vermont	4
Michigan	3	Virginia	5
Minnesota	4	Washington	5
Mississippi	6	West Virginia	5
Missouri	2	Wisconsin	4
Montana	5	Wyoming	4

State	Tax on Cigars	Tax on Cigarettes
Alabama	$1 per 1000 to $12.50 per 1000, depending on retail price.	1¢ for each 5¢ retail price per package.
Arizona	1¢ per three to 1¢ per cigar, depending on retail price.	2¢ per 20 or fraction thereof.
Arkansas	10% of retail price.	$2.50 per 1000.
Connecticut	—	1 mill per cigarette.
Georgia	$1 per 1000.	1¢ for each 5¢ sale.
Iowa	—	1 mill to 2 mills, depending on size.
Kansas	—	2¢ per 20 or fraction thereof.
Kentucky	—	1¢ for each 10¢ sale.
Louisiana	$2 per 1000 to $12.50 per 1000, depending on the retail price.	⅕¢ each cigarette.
Mississippi	1¢ on each 5¢ retail price or fraction thereof.	1¢ on each 5¢ retail price or fraction thereof.
North Dakota	—	1½ mills each and 2 mills each, depending on size.
Ohio	—	1¢ on each 10 or fraction thereof.
Oklahoma	—	1½¢ per package of 10 or less to $1.50 per 1000.
Pennsylvania	—	1¢ per 10 cigarettes.
South Carolina	Less than 3 lbs. per 1000, 1¢ per 10 to $10 per 1000.	1¢ per each 5¢ retail price of fraction thereof.
South Dakota	—	1½ mills each to 4 mills each, depending on weight.
Tennessee	10% on retail price.	⅕% on each cigarette; 20% when retail price over 1¢.
Texas	—	Less than 3 lbs. per 1000, $1.50. More than 3 lbs. per 1000, $3.50.
Utah	—	Not more than 3 lbs. per 1000, 1 mill each. More than 3 lbs. per 1000, 2 mills each.
Vermont	—	.75 mills per cigarette.
Washington	—	.05¢ each when sold for 1¢ or less; others 10% of retail price.

tax while those that have gone to the estate or the base have shown no disposition to change. The rates in use are as follows:

INHERITANCE TAXES

State	Rate Range Direct Heirs in Per Cent	Highest Rate Applies to Amounts over (000 out)	Rate Range Collateral Heirs in Per Cent	Highest Rate Applies to Amounts over (000 out)
Arizona	1–25	$ 500	2–25	$ 500
Arkansas	1–10	1000	2–40	1000
California	2–10	500	5–16	500
Colorado	2–8	500	3–13	200
Connecticut	2–9	200	2–8	200
Delaware	1–4	200	2–8	200
Idaho	2–15	500	4–30	500
Illinois	2–14	500	6–30	500
Indiana	1–10	1500	5–20	1000
Iowa	1–8	300	5–15	300
Kansas	½–5	500	3–15	500
Kentucky	2–16	2000	4–16	60
Louisiana	2–3	20	5–10	20
Maine	1–3	250	4–8	250
Maryland	1–1⅕	20	7½	flat
Massachusetts	1–9	1000	3–12	flat
Michigan	2–8	750	10–15	flat
Minnesota	1–18	100	3–60	100
Missouri	1–6	400	3–30	400
Montana	2–8	100	4–32	100
Nebraska	1	50	4–12	50
New Hampshire	none	—	8½	flat
New Jersey	1–16	3700	5–16	3700
New Mexico	1	5	flat	flat
North Carolina	1–12	3000	4–25	3000
Ohio	1–4	200	5–10	200
Pennsylvania	2	flat	10	flat
Rhode Island	½–3	1000	5–8	1000
South Carolina	1–6	300	2–14	300
South Dakota	2–8	100	3–20	1000
Tennessee	1–7	500	5–15	500
Texas	1–6	1000	3–20	1000
Vermont	1–5	250	5	flat
Virginia	1–5	1000	2–15	1000
Washington	1–10	200	3–25	200
West Virginia	3–13	1000	4–30	1000
Wisconsin	2–10	500	4–40	500
Wyoming	2	flat	4–6	flat

CORPORATION AND BUSINESS TAXES

No marked changes have occurred in the taxation of business. New York continues to be the only State which levies a tax upon the net income of all business organizations rather than that only of corporations. One or two additions have been made to the list of States that tax the net income of corporations while a few States have made a slight increase in rates. The States which have not adopted net income as the base for taxation continue to use some form of a capital stock tax. The States which tax the net income of corporations, with the rates in force, are shown in the adjoining table:

State	Rate in %	State	Rate in %
Alabama	3	Montana	3
Arizona	1–5	New Mexico	2
Arkansas	2	New York	6
California	4	North Carolina	6
Colorado	4	North Dakota	3–6
Connecticut	2	Ohio	6
Georgia	5.5	Oklahoma	6
Idaho	1.5–8	Oregon	8
Iowa	2	Pennsylvania	7
Kansas	2	South Carolina	4½
Kentucky	4	South Dakota	1–8
Louisiana	4	Tennessee	6
Maryland	.5	Utah	3
Massachusetts	2½	Vermont	2
Minnesota	1–5	Virginia	3
Mississippi	2½–6	Washington	4
Missouri	2	Wisconsin	2–6 & surtax

BANK TAXATION

Little change has occurred in the method of taxing banks. One or two additions have been made to the States which have adopted net income as a base but the majority of the States still use capital stock as the base upon which to calculate the tax. The States which use the net income base, with the rates which are applicable, are shown in the following table:

State	Rate upon Net Income
Alabama.............	6
California............	4–8
Colorado.............	6
Connecticut..........	2
Massachusetts........	6
New York............	4½
Oklahoma............	1–6
Oregon..............	8
Idaho...............	1.5–8
South Carolina........	4½
Utah................	3
Wisconsin...........	2–6 & surtax

PARI-MUTUAL TAXES

The increased interest in racing with large wagers, together with the need for revenue, has led many States to levy a tax upon pari-mutual wagers. The most general plan is to exact a percentage of the total contribution to the pool. The States which follow this plan, together with the rate, are shown in the following table. A few other States make some levy upon wagers by another method.

State	Percentage of Pool Taken
Arkansas.............	4
California............	4
Delaware.............	3
Florida..............	3
Maine...............	3.5
Maryland............	1
Massachusetts........	3.5
New Hampshire......	3.5
North Carolina.......	10
Ohio................	10–30
Oregon..............	2.5
Rhode Island.........	3.5
South Dakota........	1
Washington..........	5
West Virginia........	3

LIQUOR TAXES

A generalization may be made concerning liquor taxes. No inclination exists to lessen the taxes, but some increases can be noted. Much agitation is beginning in some quarters for greatly increased taxes with the motive of regulation rather than revenue. This may be expected to continue. The methods still in use are state control, licenses and a specific levy upon products. In States which do not exercise direct control through public distribution the method of tax is a combination of license and a levy upon the product.

MISCELLANEOUS ITEMS

Agitation still exists in some States for the adoption of homestead exemption although no recent extensions have been accomplished. Experience in some of the States which are experimenting with this device has not been satisfactory and this, no doubt, has had an influence in other States.

More than half of the States continue to use some form of severence tax although this varies both in base of the levy and the rate. The levy is made at the time of severence from the earth of some natural resource such as coal, oil, timber and ores. The most general type of tax is one upon gross receipts although many States use a tax upon unit of product.

Many States are making special studies of their fiscal problems and the reports which will come from such studies will make a valuable addition to our fiscal literature. Any one who wishes to become informed upon the status of the different forms of taxation used in the States should consult *Tax Systems of the World*, 1938, published by Commerce Clearing House, Chicago.

INDEBTEDNESS OF STATES

No recent figures of any accuracy are available on the indebtedness of the States. No drastic changes have occurred, however, in the last few years and the comparison among the States remains practically the same as in 1932. (See THE AMERICAN YEAR BOOK, 1937, p. 231).

MUNICIPAL FINANCE

By H. K. Allen

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GENERAL

An examination of the financial condition of municipalities for the year 1938 showed definite signs of a continuation of the improvement which began in 1934. This further improvement was indicated especially by a decline in tax delinquencies, an increase in the collection of back taxes, and a decrease in the number

MUNICIPAL EXPENDITURES

(000 omitted)

Operation and Maintenance of General Departments: 146 Cities

Year	Total	General Government	Protection to Person and Property	Health and Sanitation	Highways
1936[1]	$1,838,803	$150,213	$317,154	$141,207	$108,910
1935[1]	1,797,798	139,144	307,733	135,892	111,358
1934[1]	1,744,975	135,766	298,758	134,296	111,306
1933[1]	1,727,043	142,296	298,852	138,921	110,652
1932[1]	1,806,517	149,909	328,797	160,010	127,670
1931	2,229,492	183,171	421,055	202,502	181,314
1930	1,820,905	163,614	361,945	180,553	149,268
1929	1,730,288	140,521	339,816	174,858	147,375
1927	1,562,615	136,848	315,362	160,259	137,892
1924	1,287,484	111,856	259,275	130,388	109,807
1922	1,155,691	105,174	234,199	115,488	98,763
1919	697,319	72,585	146,763	75,847	65,003
1915	546,568	62,793	120,696	55,758	60,615
1911	452,899	53,766	106,120	45,691	52,214
1907	367,367	42,703	87,885	36,899	42,718
1903	278,173	30,842	71,020	25,807	34,208

[1] Statistics for 1932 to 1936 are for 94 cities having a population over 100,000. All other data are for cities over 30,000.

Year	Charities, Hospitals, and Corrections	Schools	Libraries	Recreation	Miscellaneous
1936	$366,466	$571,922	$21,119	$52,303	$109,504
1935	337,990	545,718	20,840	47,943	151,180
1934	345,214	526,864	20,271	48,306	124,194
1933	292,212	542,034	19,744	60,097	122,235
1932	234,419	629,353	——[1]	63,117	113,242
1931	201,896	839,577	——[1]	78,952	121,027
1930	138,051	637,196	24,515	66,060	99,692
1929	116,147	622,587	23,029	61,863	94,091
1927	99,806	560,668	20,167	53,839	77,731
1924	79,239	475,725	15,782	41,819	63,590
1922	76,627	422,843	14,326	38,703	49,603
1919	53,262	216,701	9,079	24,204	33,870
1915	38,285	162,332	7,134	20,416	18,535
1911	30,647	127,604	5,939	17,114	13,801
1907	24,408	102,395	4,989	11,794	13,572
1903	18,280	80,853	4,067	7,457	5,634

[1] Expenditures for libraries and schools combined in 1931 and 1932.

of defaults. The decline in tax delinquencies and the increase in back tax collections resulted from the general improvement in business conditions and from the activities of various Federal agencies. The reduction in the number of defaults was largely attributable to the improvement in tax collections.

EXPENDITURES

The most recent year for which the comprehensive statistics of the Bureau of the Census are available is 1936. Unfortunately, the figures for 1932 to 1936 are limited to cities having a population of over 100,000. By Executive Order of June 10, 1933, the annual collection and compilation of financial statistics was limited to cities of over 100,000 population.

While some of the absolute expenditures just noted may appear large, yet too great significance should not be attached to them. The size of an expenditure becomes intelligible in terms of service when one discovers the number among whom it is divided. The per capita expenditures of cities, both as a whole and for particular items, have varied greatly from time to time, but the general tendency has been to increase. The accompanying table shows the change in per capita expenditures for selected years:

PER CAPITA EXPENDITURES

Year	Total	General Government	Protection to Person and Property	Health and Sanitation	Highways	Charities, Hospitals and Corrections	EDUCATION		Recreation[2]	Miscellaneous[1]
							Schools[1]	Libraries[2]		
1936	$48.83	$3.99	$8.43	$3.75	$2.89	$9.73	$15.19	.56	$1.39	$2.91
1935	47.78	3.70	8.18	3.61	2.76	8.98	15.05	..	1.27	4.02
1934	46.43	3.61	7.95	3.57	2.97	9.18	14.56	..	1.29	3.30
1933	46.08	3.80	7.98	3.71	2.95	7.80	14.99	..	1.60	3.26
1932	47.87	3.97	8.71	4.24	3.38	6.21	16.68	..	1.67	3.00
1931	46.18	3.79	8.72	4.19	3.75	4.18	17.39	..	1.63	2.51
1930	44.29	3.82	8.68	4.28	3.64	3.12	16.28	.61	1.59	2.28
1929	43.45	3.66	8.46	4.33	3.70	2.78	16.14	.59	1.55	2.25
1927	40.77	3.46	8.13	4.13	3.60	2.49	15.08	.53	1.40	1.94
1924	35.61	3.01	7.10	3.55	3.07	2.08	13.52	.44	1.15	1.67
1922	33.15	2.94	6.66	3.25	2.87	2.08	12.50	.41	1.09	1.34
1919	21.63	2.22	4.53	2.34	2.04	1.59	6.88	.28	.74	1.01
1915	18.45	2.10	4.06	1.86	2.06	1.26	5.58	.24	.68	.61
1911	17.62	2.08	4.12	1.77	2.04	1.17	5.04	.23	.65	.53
1907	15.95	1.86	3.80	1.59	1.91	1.05	4.42	.21	.51	.59
1903	13.19	1.46	3.35	1.21	1.64	.86	3.86	.10	.35	.27

[1] Payment for pensions are included in column "Miscellaneous" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with expenses of police, fire, and school departments.

[2] Payments for expenses of art galleries and museums are included in column "Recreation' for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with the expenses of libraries; expenditures for libraries and schools are combined for the years 1931 to 1935.

IMPORTANCE OF DIFFERENT MUNICIPAL EXPENDITURES

There is a wide difference in the importance attached to the different functions performed by municipalities. While over a period of years there has been some change in the relative importance of some of the items, it is interesting to note that expenditures for education have always been far larger than any other, and that the relative importance of this item up to 1932 tended to increase with the years. Protection and highways have commanded a smaller percentage of the expenditures than formerly. The most significant development in recent years, it will be noted, is the increase in expenditures for charities, hospitals, and corrections. The following table shows the relative importance of the different municipal services over a period of years:

PERCENTAGE OF EXPENDITURES FOR DIFFERENT MUNICIPAL FUNCTIONS

Year	General Government	Protection to Person and Property	Health and Sanitation	Highways	Charities, Hospitals, Corrections	Education		Recreation	Miscellaneous
						Schools	Libraries [1]		
1936	8.2	17.2	7.7	5.9	19.9	31.1	1.1	2.8	6.0
1935	7.7	17.1	7.5	6.2	18.8	31.6	..	2.7	8.4
1934	7.8	17.1	7.7	6.4	19.8	31.4	..	2.8	7.1
1933	8.2	17.3	8.1	6.4	16.9	32.5	..	3.5	7.1
1932	8.3	18.2	8.9	7.1	13.0	34.8	..	3.5	6.3
1931	8.2	18.9	9.1	8.1	9.1	37.6	..	3.5	5.4
1930	8.6	19.6	9.7	8.2	7.0	36.8	1.4	3.6	5.1
1929	8.4	19.5	10.0	8.5	6.4	37.2	1.4	3.6	5.2
1927	8.5	20.0	10.1	8.8	6.6	37.0	1.3	3.4	4.8
1924	8.5	19.9	10.0	8.6	5.9	38.0	1.2	3.2	4.7
1922	8.9	20.1	9.8	8.7	6.3	37.7	1.2	3.3	4.0
1919	10.2	21.0	10.8	9.4	7.3	31.8	1.3	3.4	4.7
1915	11.4	22.0	10.1	11.2	6.8	30.2	1.3	3.7	3.3
1911	11.8	23.4	10.1	11.6	6.6	28.6	1.3	3.7	3.0
1907	11.7	23.8	9.9	12.0	6.6	27.7	1.3	3.2	3.6
1903	11.1	25.3	9.2	12.4	6.5	29.3	1.5	2.7	2.1

[1] Percentages for schools and libraries combined for the years 1931 to 1935.

The expenditures just described are designated as "expenses" by the Census Bureau. In addition to these are a number of other expenditures, the most important of which are for interest, outlays, and payments for operation and maintenance of public-service enterprises. The interest payments are for the funded and floating debt, special assessment loans, and other minor types of borrowing. In 1936 the total interest payment was $354,114,735. The corresponding figure for 1935 was $340,770,000.

Expenditures for outlays comprise the amounts paid for the acquisition and construction of more or less permanent improvements, including payments for additions made to those previously acquired or constructed. Such payments in 1936 amounted to $438,737,948 in comparison with $358,400,000 for the preceding year.

The water-supply system is the most important public-service enterprise operated by American cities. Of the 94 municipalities for which the census data are available, 84 have water-supply systems, and the payments for operating them in 1936 amounted to $68,184,970. The revenue receipts for these enterprises were $184,359,205, or more than double the operating costs. These figures must be used with caution, however, because such enterprises are usually exempted from the payment of taxes. The payments, moreover, often do not include proper allowances for interest on the investment, depreciation, and other charges which are included in the costs of the privately-owned utilities.

SOURCES OF REVENUE

Property Taxes.—The revenue of cities arises from a number of sources. In most cities more than 90 per cent of the funds which go into the general revenue fund come from the general property tax. This is a tax levied against real and personal property. In addition to the general property tax the Census Bureau designates certain taxes as special property taxes. Such include taxes upon the capital stock of corporations, upon savings banks and other financial institutions, and upon insurance companies. Included in this, also, would be taxes levied upon mortgages at time of recording, taxes upon incomes and estates, upon investments, and a wide range of specific taxes.

Poll and Business Taxes. — In many cities, also, some form of poll tax continues to be used, although such taxes are much less important than formerly. No generalization can be made as to method of levy since this varies greatly from city to city. In addition, business and non-business license taxes make up a large group of levies upon different types of business activities, some of which, of course, are levied primarily for regulative purposes. The latter include such levies as those upon dogs, dance halls, etc. Receipts from special assessments constitutes an important item, but they do not enter the general revenue fund. In some places at a particular time subventions and grants are an important source of income, while in some cities, also, the earnings from public enterprises are not unimportant. The relative importance of the major sources of revenue over a period of years is shown in the following table:

PERCENTAGE OF RECEIPTS FROM DIFFERENT SOURCES OF REVENUE

Year	The General Property Tax	Other Taxes	Special Assessments	Subventions and Grants. Donations and Pension Assessments	Earnings of Public Service Enterprises	Other Revenues
1936	59.7	7.9	1.6	14.3	10.4	6.1
1935	60.2	6.8	1.7	15.6	9.5	6.2
1934	62.6	5.3	2.2	13.5	9.8	6.6
1933	64.3	4.3	2.4	12.3	9.5	7.2
1932	66.2	4.7	3.9	8.5	9.3	7.4
1931	66.2	4.7	3.9	8.5	9.3	7.4
1930	65.9	6.2	6.7	5.8	9.4	5.9
1929	64.7	6.4	7.2	5.8	9.8	6.1
1927	66.1	5.7	7.7	4.9	9.6	6.2
1924	66.1	5.7	5.9	5.3	10.3	6.8
1922	66.9	5.2	4.8	5.9	9.0	8.2
1919	66.0	7.6	5.6	4.1	10.2	6.4
1915	62.4	7.8	8.5	4.2	10.0	6.9
1911	61.9	8.7	8.4	4.6	10.6	5.8
1907	59.4	10.6	8.2	4.8	11.2	5.8
1903	61.4	9.8	7.6	4.3	11.5	5.5

PER CAPITA TAX BURDEN

That the tax burden imposed by cities has been increasing much more rapidly than population is readily seen when one notes the change in the per capita amounts collected from different sources over a period of years.

PER CAPITA RECEIPTS FROM DIFFERENT SOURCES

Year	Total	The General Property Tax	Other Taxes	Special Assessments	Subventions and Grants. Donations and Pension Assessments	Earnings of Public Service Enterprises	Other Revenues
1936	$76.83	$45.83	$6.03	$1.21	$10.95	$8.03	$4.78
1935	77.64	46.72	5.26	1.32	12.10	7.37	4.87
1934	72.13	45.17	3.77	1.61	9.71	7.09	4.78
1933	66.88	43.02	2.88	1.59	8.25	6.36	4.78
1932	68.82	45.57	3.24	2.70	5.84	6.42	5.03
1931	70.84	46.90	3.46	3.86	4.79	6.89	4.94
1930	73.32	48.34	4.57	4.91	4.25	6.92	4.33
1929	69.63	45.07	4.43	5.01	4.02	6.82	4.28
1927	69.77	46.09	3.95	5.36	3.40	6.67	4.29
1924	58.41	38.59	3.33	3.43	3.12	6.00	3.96
1922	53.57	35.85	2.80	2.58	3.13	4.83	4.38
1919	35.26	23.29	2.68	1.98	1.43	3.61	2.27
1915	30.00	18.73	2.36	2.54	1.26	3.03	2.08
1911	28.07	17.37	2.44	2.35	1.30	2.98	1.63
1907	24.67	14.64	2.63	2.02	1.18	2.77	1.43
1903	21.14	12.98	2.06	1.60	.91	2.42	1.16

MUNICIPAL INDEBTEDNESS

Receipts from sources of revenue may either just pay expenses, more than pay expenses, or fail to pay them. In many cases the administrators of the finances have planned for a surplus but because of a shrinkage in revenue have had to resort to borrowing.

In the calculations of the Census Bureau municipal indebtedness is divided into two distinct groups, funded debt and floating debt. The former includes all obligations represented by formal investments which have a number of years to run and for the redemption of which no assets other than a sinking fund have been specifically designated. The latter, on the other hand, includes such indebtedness as is evidenced by warrants and accounts payable, by short term bonds, etc. The gross indebtedness is, of course, the total amount, while to subtract from this the value of the assets in a sinking fund will indicate the net indebtedness. The following table shows the total indebtedness, the sinking fund assets, and the net indebtedness for certain years. The latest statistics that are available for 1931 to 1936 give only net indebtedness.

MUNICIPAL INDEBTEDNESS

(000 omitted)

Year	Funded or Fixed, and Floating Debt	Sinking Fund Assets		Net Debt	
		Amount	Per Capita	Amount	Per Capita
1936	$........[1]	$........[1]	$ ....[1]	$6,331,516 [2]	$168.13
1935	........[1]	........[1]	....[1]	6,397,603	170.03
1934	........[1]	........[1]	....[1]	6,380,478	169.76
1933	........[1]	........[1]	....[1]	6,360,586	169.70
1932	........[1]	........[1]	....[1]	6,289,078	166.66
1931	........[1]	........[1]	....[1]	6,328,778	159.70
1930	7,808,379	1,840,816	47.20	5,967,563	153.02
1929	7,233,151	1,703,316	44.45	5,529,835	144.33
1927	6,456,781	1,513,273	41.10	4,943,507	134.27
1924	5,057,023	1,215,043	34.82	3,481,980	110.09
1922	4,332,114	1,051,468	31.27	3,280,645	97.57
1919	3,352,688	811,516	25.93	2,541,172	81.18
1915	2,866,008	620,102	21.50	2,245,906	77.86
1911	2,305,059	496,230	11.52	1,808,828	67.52
1907	1,657,320	362,441	15.68	1,808,878	56.04
1903	1,223,101	290,096	13.90	933,004	44.71

[1] Not available for years 1931 to 1936.

[2] Exclusive of floating debt.

MUNICIPAL BOND ISSUES

(000 omitted)

Year	Total First Ten Months	Year	Total First Ten Months
1938	$ 800,626	1925	$1,174,724
1937	769,778	1924	1,280,504
1936	955,500	1923	850,952
1935	973,869	1922	990,188
1934	725,660	1921	868,392
1933	392,580	1920	570,109
1932	701,938	1919	581,871
1931	1,156,129	1918	245,789
1930	1,211,857	1917	402,828
1929	1,055,135	1916	402,548
1928	1,094,074	1915	434,829
1927	1,297,029	1914	423,171
1926	1,149,105	1913	327,902

Source: *Commercial and Financial Chronicle.*

IMPROVEMENT IN THE BOND MARKET

An improvement in the demand for municipal securities since 1933 is indicated by the table opposite, which shows the aggregate disposals of long-term obligations by States and municipalities for the first ten months of each year for a series of years:

FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

The table showing municipal bond issues does not include the extension grants made to municipalities for public-works projects by the Federal Emergency Administration of Public Works. This agency was created by the National Industrial Recovery Act which became effective June 16, 1933. Under Title II of this act, authority was granted to the Administrator to furnish grants, not subject to repayment, for 30 per cent of the total expenditures incurred for the payment of labor and material costs on approved public works projects. Moreover, the agency was authorized to accept 4 per cent general obligation or revenue bonds of the municipalities as security for the loan portion of the allotment. In 1934 Congress authorized the Reconstruction Finance Corporation to purchase marketable securities from the Public Works Administration and provided that moneys realized by the Public Works Administration from such sales might be used for making additional loans, but not grants, in aid of non-Federal public-works projects under Title II of the N. I. R. A.

In addition to the program of public works administered under Title II of the National Industrial Recovery Act, the Public Works Administration has been carrying on a separate program pursuant to the Emergency Relief Appropriation Act of 1935. Under the latter act the amount of the grant was fixed by administrative determination at 45 per cent of the cost of the project, with a corresponding reduction in the amount to be furnished by the applicant. Provision was made under this act for the sale of bonds acquired as collateral for municipal loans either on the open market or to the Reconstruction Finance Corporation, the proceeds to be used only for the making of loans. In practice the sales have been confined to the Reconstruction Finance Corporation which, in turn, sells the securities on the open market. A substantial profit has been derived from this financing, but in recent months municipalities have found it advantageous to dispose of an increasingly large number of issues locally.

The Public Works Administration since its creation has pledged itself to buy approximately $1,000,000,000 worth of bonds. Because of recent large withdrawals, this commitment has been greatly reduced, and a much smaller amount has actually been delivered. The major portion of the amount acquired by the Public Works Administration has been placed with the Reconstruction Finance Corporation and resold to the general public. Total allotments for all non-Federal projects for the years 1933 to 1937, inclusive, totaled $1,450,952,783. Of this amount $592,325,453 consisted of loans, and $858,627,330 was in grants.

TAX DELINQUENCY

Tax delinquency is a natural phenomenon of a business depression. And a rising trend of a tax delinquency inevitably cripples municipal functions and weakens municipal credit. Dun and Bradstreet has made a study of the trend of median year-tax delinquency in 150 cities over 50,000 population for the eight-year period from 1930-1937. The following percentages show the median delinquency on the current tax levy at the end of each fiscal year:

1930	1931	1932	1933
10.15%	14.60%	19.95%	26.35%

1934	1935	1936	1937
23.05%	18.0%	13.9%	11.3%

These figures show a substantial gain in collections since 1933; and delinquency in 1937 was little higher than it was in 1930. Only fragmentary data are available for 1938, but it is believed that little change has occurred.

DEBT DEFAULTS

Heavy tax delinquency in recent years naturally resulted in a large number of defaults. The *Bond Buyer* estimated, with certain reservations, that 675 cities and towns were in default on their bonds on Nov. 1, 1938. This represents a substantial reduction from the previous year when 763 incorporated places were in default.

The following States, according to the *Bond Buyer*, had the largest number of defaults:

Florida	144	Ohio	48
North Carolina	96	Oklahoma	41
Texas	78	New Jersey	35
Michigan	53	Minnesota	15

It is significant to note that two States, Florida and North Carolina, which rank high in the number of defaults, also had the largest increases in local indebtedness between 1912 and 1932, the percentages being 2,799.01 and 1,300.8 respectively. The indebtedness of Maine during the same period increased only 73.2 per cent, while that of Massachusetts increased only 99.2 per cent. Maine had three incorporated places in default in 1937 and Massachusetts had none.

While no data are available regarding the volume of municipal bonds in default, it can reasonably be stated that the volume of such defaults has declined during the past year.

DEBT ADJUSTMENT LEGISLATION

For the purpose of aiding municipalities which are in default on their obligations, various States have recently passed state receivership and debt adjustment acts. Boards or commissions have been established to supervise local indebtedness in general, to supervise the refunding of municipal bonds, and to act as receivers in event of failure to meet debt service.

A Federal Municipal Bankruptcy Act was enacted May 24, 1934. This act, which was declared unconstitutional by the Supreme Court of the United States in May, 1936, was designed to enable any taxing district, with the consent of its creditors and the approval of a Federal District Court, to adjust its debt structure. According to the *Bond Buyer,* only 27 cities, one county, one school district, 41 irrigation districts, and one road district filed petitions under the Municipal Bankruptcy Act during the two years which the law was in effect.

On Aug. 16, 1937, President Roosevelt signed a new Municipal Bankruptcy Act, designed to replace the original measure which was declared unconstitutional. The present law is similar in its provisions to the invalidated law. It provides a procedure whereby insolvent taxing agencies, such as local drainage, levee, irrigation, road, and sewer districts, as well as towns, boroughs and municipalities may effect compositions with their creditors. These compositions would be approved only when the districts or agencies filed voluntary proceedings in bankruptcy accompanied by plans approved by 51 per cent of all the creditors of the district or town. The plan of composition cannot be confirmed unless accepted in writing by creditors holding at least 66⅔ per cent of the aggregate amount of the indebtedness of the petitioning district or taxing agency, unless the judge is satisfied that the taxing district was authorized by law to carry out the plan and there had been a finding by the Court that the plan was fair, equitable, and for the best interests of the creditors. The jurisdiction conferred by the act terminates June 30, 1940.

INCOME TAXES

By Lucy Winsor Killough

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FEDERAL REVENUE ACT OF 1938

In the Revenue Act of 1938 the income tax provisions, as well as those for other Federal taxes, have been rewritten and supersede those of earlier acts. The act was sent to the President on May 16, 1938. On May 27, in a high school commencement address, President Roosevelt stated that he would neither sign the act nor return it to Congress but would allow it to become law without his approval. The provisions of the new act to which he particularly objected were those relating to the taxation of undistributed profits and to the treatment of capital gains and losses. The act applies to taxable years beginning after Dec. 31, 1937.

PERSONAL INCOME TAX

The rate structure and personal exemptions of the individual income tax remain as before. The normal tax is 4%, the surtax ranges from 4% on surtax net incomes in excess of $4,000 and not in excess of $6,000 to 75% on surtax net incomes in excess of $5,000,000. The personal exemptions are $1,000 for a single person, $2,500 for a head of a family, and $400 for each dependent under 18 years of age.

The principal change made by the Act of 1938 in respect to individual incomes concerns the treatment of gains and losses on the sale of capital assets. A distinction is made between short term capital gains and losses, which are those from the sale of capital assets held not more than 18 months, and long term capital gains and losses on assets which had been held more than 18 months before being sold. Short term capital losses for the current and the preceding year may be deducted from short term capital gains which are then taxed on their full value at the regular normal and surtax rates. Long term capital gains, from which long term capital losses may be deducted only for the taxable year, and long term capital losses are figured at 66⅔% of the full value if the asset has been held not more than 24 months and at 50% if the asset has been held over 24 months. For taxing long term capital gains an alternative to the regular normal and surtax is provided. The effect of this alternative is to make the higher surtax brackets inapplicable to long term capital gains. A similar alternative for long term capital losses sets a maximum to the possible deduction for such losses.

CORPORATE INCOME TAX

The new provisions for the taxation of corporate income were passed after considerable controversy. The greatest difference of opinion concerned the undistributed profits tax. Corporations with incomes of not more than $25,000 are now exempt from the undistributed profits tax. The net income of these corporations is taxed at rates graduated from 12½% to 16%. Three alternative provisions are made for the taxation of corporations with incomes in excess of $25,000. Stated rates range from 19% of the entire net income to 32% of the income in excess of $25,000 with provisions for various deductions under certain conditions and for payment of the lesser tax as between the two major alternatives. The principle of the undistributed profits tax is retained with a nominal rate of 2½%. This is a marked reduction from the undivided profits rates, graduated up to 27%, in the Act of 1936. These corporate income tax sections of the Revenue Act of 1938 are extremely complex and were the results of a series of compromises between various groups in the Senate and the House. They are to apply only to the years 1938 and 1939.

Surtaxes on the undistributed net incomes of personal holding companies are the same as in the Act of 1937—65% and 75%. Penalty surtaxes on corporations improperly accumulating surplus are increased to 25% of the first $100,000 of retained income and 35% of retained income in excess of $100,000. The act also makes some changes in definitions in the income tax sections and provides for special methods of taxing the incomes of certain classes of corporations.

REVENUE FROM FEDERAL TAX

Revenues from both personal and corporate income taxes increased in the fiscal year ended June 30, 1938. Personal income tax collections were 18 per cent greater and corporate income tax collections 23 per cent greater than in the preceding fiscal year. With the exception of the war and post war fiscal years 1918, 1919, 1920 and 1921, total income tax collections were the largest on record. Collections for 1937–38 exceeded collections for 1929–30, the previous peace time high, by 7 per cent. The proportion of all Federal taxes from these sources increased from 41.8 per cent in 1936–37 to 43 per cent in 1937–38. Comparisons for the past three years are as follows:

INCOME TAXES

FEDERAL INCOME TAX COLLECTIONS

Fiscal Year	Income Tax Collections (in thousands of dollars)			Per Cent of all Federal Taxes* from Income Tax
	Corporation Tax	Personal Tax	Total Tax	
1937–38	1,299,076	1,285,915	2,584,991	43.0
1936–37	1,056,923	1,091,741	2,148,664	41.8
1935–36	738,522	674,416	1,412,938	36.2

* Customs collections and internal revenue taxes.

DIGEST OF STATE PERSONAL INCOME TAX PROVISIONS

State	Year First Effective	Personal Exemption			Rate of Tax (per cent)	Amount of Taxable Income in Excess of which Maximum Rate Applies
		Single	Head of Family	Dependents		
Alabama	1933	$1,500	$3,000	$300	1½–5	$5,000
Arizona	1933	10*a*	20*a*	4*a*	1–4½	9,000
Arkansas	1929	1,500	2,500	400	1–5	25,000
California	1935	1,000	2,500	400	1–15	250,000
Colorado	1937	1,000	2,500	400	1–6*b*	10,000
Delaware	1917	1,000	2,000	200	1–3	10,000
Georgia	1929	1,000	2,500	400	1–7	20,000
Idaho	1931	700	1,500	200	1½–8	5,000
Iowa	1934	10*a*	20*a*	5*a*	1–5	4,000
Kansas	1933	750	1,500	200	1–4	7,000
Kentucky	1936	1,000	2,500	400	2–5	5,000
Lousiana	1934	1,000	2,500	400	2–6	50,000
Maryland	1937	1,000	2,500	400	0.5*c*	...
Massachusetts	1916	2,000*d*	2,500*d*	250*d*	1½–6*e*	...
Minnesota	1933	10*a*	30*a*	5*a*	1–10	20,000
Mississippi	1912	1,000	2,500	400	3–6½	15,000
Missouri	1917	1,000	2,000	200	1–4	9,000
Montana	1933	1,000	2,000	300	1–4	6,000
New Hampshire	1923	200	200	...	*f*	...
New Mexico	1933	1,500	2,500	200	1–4	100,000
New York	1919	1,000	2,500	400	2–7*g*	9,000
North Carolina	1921	1,000	2,000	200	3–7	10,000
North Dakota	1919	500	1,500	200	1–15	15,000
Ohio	1931	...	...	...	5*h*	...
Oklahoma	1908	850	1,700	300	1–9	8,000
Oregon	1930	800*i*	1,500*i*	300*i*	2–7*i*	5,000
South Carolina	1922	1,000	1,800	200	2–5*j*	6,000
South Dakota	1935	6*a*	12*a*	2*a*	1–8	318,000
Tennessee	1929	...	...	...	4–6*k*	...
Utah	1931	600	1,200	300	1–5	4,000
Vermont	1931	1,000	2,000	250	2–4*l*	...
Virginia	1843	1,000	2,000	200	1½–3	5,000
West Virginia	1935	1,000	2,000	300	1–4	3,000
Wisconsin	1911	8*a*	17.50*a*	4*a*	1–7*m*	12,000

(*a*) Deduction from tax. (*b*) Additional 2% surtax without exemption on income from securities. (*c*) For 1937 and 1938 only. (*d*) Exemptions apply to earned income. (*e*) Earned income and annuities 1½%; capital gains 3%; interest and dividends 6%: all plus an additional 10% of tax. (*f*) Average rate on real estate – $3.48 per hundred in 1938 — applies only to income from dividends and interest. (*g*) Plus an "emergency" 1% which has been extended for one more year. (*h*) On income from intangibles only. (*i*) Exemptions and rates do not apply to income from intangibles which is taxed at 8%, with exemptions of $500 for single persons and $800 for heads of families. (*j*) Additional tax on income from interest and dividends from 3 to 5% on all such income over $500. (*k*) On dividends and interest only; 4% on dividends when at least 75% of corporate property assessable in Tennessee, 6% on other dividends and on interest. (*l*) 2% on earned income; 4% on interest and dividends. (*m*) Plus a surtax of one sixth of the tax after certain exemptions.

VII. PUBLIC FINANCE AND TAXATION

STATE INCOME TAX LEGISLATION

Only a few state legislatures met in 1938 and they made no major changes in income tax legislation. No new income tax laws were enacted. In the November elections three States—Maryland, New Hampshire, and Washington—defeated constitutional amendments to permit graduated income taxes. This leaves Maryland with the problem of what to do with the supposedly temporary (1937 and 1938) flat 0.5% tax. In November the City of Philadelphia adopted a 1½% income tax which the state Supreme Court early in December declared to be constitutional. By the middle of the month the City Council was promising repeal but no action had been taken.

DIGEST OF STATE CORPORATION INCOME TAX PROVISIONS

State	Year First Effective	Kinds of Corporations Exempt	Amount of Income Exempt (Dollars)	Rate of Tax (per cent)
Alabama	1933		...	3*a*
Arizona	1933	Insurance	...	1–5*b*
Arkansas	1929	Foreign Insurance	$1,500	2
California	1929		...	4
Colorado	1937	Insurance	...	4*c*
Connecticut	1915	Insurance, public utilities	...	2
Georgia	1930	Insurance, banks	...	5½
Idaho	1931		...	1½–8*d*
Iowa	1934	Insurance, banks	...	2
Kansas	1933	Banking	...	2
Kentucky	1936	Insurance, banks	...	4
Louisiana	1934		...	4
Maryland	1937	Banks	...	0.5*e*
Massachusetts	1919	Public utilities, insurance	...	2½*f*
Minnesota	1933	Banks, mines	1,000	6
Mississippi	1914	Banks	1,000	3–6½*g*
Missouri	1917	Express, insurance	...	2
Montana	1917		...	3*h*
New Mexico	1933	Insurance, banks	1,000	2
New York	1917	Real estate, public utilities insurance	...	6*i*
North Carolina	1921		...	6
North Dakota	1919	Insurance, banks	...	3–6*g*
Ohio	1931		...	5*j*
Oklahoma	1931		...	6
Oregon	1930	Insurance, real estate	...	8*k*
Pennsylvania	1935	Insurance, banks	...	7
South Carolina	1922		...	4½
South Dakota	1935	Express, mining	...	1–8*l*
Tennessee	1931		...	3¾
Utah	1931		...	3*m*
Vermont	1931	Public utilities, insurance, banks	...	2
Virginia	1927	Public utilities, insurance, banks	...	3
Wisconsin	1911	Railroads, car, insurance, mutual savings banks	...	1–6*n*

(*a*) Banks taxed by an excise tax "measured" by net income at 6%. (*b*) Maximum rate applies to all income over $6,000. (*c*) Banks at 6%. (*d*) Maximum rate applies to all income over $5,000. (*e*) For 1937 and 1938 only. (*f*) Bank rate to be determined by Commission; not to exceed highest rate applied to business corporations. (*g*) Maximum rate applies to all income over $15,000. (*h*) Minimum tax of $5.00. (*i*) Also a 4% tax on the income of unincorporated businesses. (*j*) On income from intangibles only. (*k*) Offset for personal property tax up to 75% of corporate excise. (*l*) Maximum rate applies to all income over $318,000. (*m*) Or 1/20 of 1% of value of tangible property, whichever is greater, less property tax offset up to ⅓ of tax. (*n*) Plus a surtax of ⅙ of the normal tax less $75, maximum rate applies to all income over $6,000.

STATUS OF STATE INCOME TAXES

The present status of state income taxes is as follows: 31 States are taxing both personal and corporate income, but one of these—Ohio—taxes income from intangibles only. The Tennessee personal income tax is on intangibles only but the corporation tax is on all corporate income. Delaware, New Hampshire and West Virginia tax personal income only. The New Hampshire tax is on income from intangibles only. Connecticut and Pennsylvania tax only corporate income. Altogether 36 States levy some form of net income tax.

Twenty-seven States tax corporations at flat rates ranging from one half of one per cent to seven per cent (not including Oregon because of the personal property tax offset). Six States apply graduated rates to corporate incomes, of these the highest rate is eight per cent. New York State levies a tax of four per cent on the income of unincorporated businesses.

REVENUE FROM STATE INCOME TAXES

State	Income Tax Collections (in thousands of dollars)			Income Tax Revenues Returned to Local Governments (thousands of dollars)	Per Cent of Total State Collected Revenues Derived from Income Taxes *a*	Year Ending
	Personal	Corporate	Total			
Alabama	1,127	1,451	2,578	0	4	Sept. 30, 1938
Arizona	...	...	1.164	0	8*b*	June 30, 1937
Arkansas	327	334	701*c*	0	*d*	July 1, 1938
California	21,449	21,502	42,951	0	17	June 30, 1938
Colorado			not available			
Connecticut	0	3,662	3,662	0	5	June 30, 1938
Delaware	1,285	0	1,285	0	12	Dec. 31, 1937
Georgia	2,550	3,252	5,802	0	14	June 30, 1938
Idaho	695	1,212	1.907	0	*d*	Dec. 31, 1937
Iowa	3,881	889	4,770	0	*d*	June 30, 1938
Kansas	1,674	913	2,587	0	3	June 30, 1938
Kentucky	2,467	2,128	4,595	0	11	June 30, 1938
Louisiana	2,431	2,420	4,851	0	5	Dec. 31, 1937
Maryland	651	361	1,012	0	*d*	Sept. 30, 1938
Massachusetts	23,792	4,500*e*	28,292	21,010	23	Nov. 30, 1938
Minnesota	6,995	5,071	12,047*f*	5,200*g*	8	June 30, 1938
Mississippi	*h*	*h*	2,180	0	6	June 30, 1938
Missouri	...	...	7,422	0	19	Dec. 31, 1937
Montana	502	497	999	0	3	June 30, 1938
New Hampshire	687	0	687	677	4	June 30, 1938
New Mexico	160	310	470	*i*	4	June 30, 1938
New York	123,472	47,381*j*	170,853	27,630	38	June 30, 1938
North Carolina	2,826	8,548	11,374	0	*d*	June 30, 1938
North Dakota	268*k*	210*k*	478*k*	0	*d*	Dec. 31, 1937
Ohio	...	...	6,238	5,989	6	Dec. 31, 1937
Oklahoma	3,450	5,089	8,539	731*l*	10	June 30, 1938
Oregon	3,616	1,884	5,500	0	8	June 30, 1938
Pennsylvania	0	29,880	29,880	0	13*b*	May 31, 1937
South Carolina	1,546	2,253	3,799	0	*d*	June 30, 1938
South Dakota	...	...	559	186	2	June 30, 1938
Tennessee	1,724	2,134	3,858	400*g*	10	June 30, 1938
Utah	864	949	1,813	0	7	June 30, 1938
Vermont	596	162	758	0	5	June 30, 1938
Virginia	2,016	2,457	4,473	0	5	June 30, 1938
West Virginia	1,847	0	1,847	0	4	June 30, 1938
Wisconsin	8,825	10,151	18,976	7,408	31	June 30, 1938

(*a*) It is impossible to obtain completely consistent, up to date figures from all the states showing total state collected revenues. Therefore, the per cents in this column have been computed on varying bases and must not be regarded as giving perfectly accurate indications of the importance of income tax collections to the separate states. (*b*) Per cent of tax collections only — as presented in Tax Policy League, *Tax Policy*, November-December, 1937. (*c*) Total includes unclassified delinquent income taxes. (*d*) State collected revenues for same year not available. (*e*) Corporate income tax is not collected separately from other corporate taxes — figure given here for corporate income tax collections is estimate by Department of Corporations of proportion of corporate excise tax derived from income. (*f*) Total includes tax on fiduciaries. (*g*) Approximate. (*h*) About 50% each from personal and from corporate income. (*i*) 90% to state school fund for remittance to county treasurers. (*j*) $43,412 from corporate excise tax and 3,969 tax on net income of unincorporated businesses. (*k*) Tax liability established for calendar year 1937, fiscal year ends June 30. (*l*) From delinquent income taxes; since 1935 current collections go to state general revenue fund.

STATE INCOME TAX COLLECTIONS

The productivity of state income taxes varies greatly among the separate States. Comparisons between the absolute figures are of limited value because of great differences in the sizes of the States. New York leads with collections of $171,000,000, followed by California with $43,000,000, Pennsylvania with $30,000,000, Massachusetts with $28,000,000, Wisconsin with $19,000,000, Minnesota with $12,000,000 and North Carolina with $11,000,000. In no other States did collections exceed $10,000,000. In New York and Wisconsin over 30% of state collected revenues were derived from income taxes. Massachusetts, Missouri, and California followed with 23%, 19% and 17% respectively. In seven States less than five per cent of state collected revenue was derived from income taxes. Since there is wide variation in accounting methods and in forms of reporting revenue collections among the States these percentages must be regarded as approximations with unfortunately wide margins of error. The differences in income tax yields among the States cannot be attributed to any single factor. The rates, exemptions, number and size of brackets and efficiency of administration vary widely among the States. All of the States do not make separate reports of personal and corporate income tax collections. For those which do so report the total collections of personal income taxes are greater than of corporate income taxes. This is due to a considerable extent to the importance of personal income taxation in Massachusetts and New York. In many States corporate income tax collections exceed personal income tax collections.

SHARING OF STATE INCOME TAXES

Less than one third of the income tax States share their income tax collections directly with local governments. In 1918 New York shared the largest sum but New Hampshire, Ohio, and Massachusetts shared larger proportions of their income tax collections with the localities. In several States a large proportion of income tax collections is spent directly by state governments for schools, thus materially aiding local governments. In some States income tax collections have been used for unemployment relief.

LAND AND PROPERTY TAXES

By Frank Bain

Professor, Baylor University

ADMINISTRATION AND COMMISSIONS OF INQUIRY

The Georgia legislature created the office of State Revenue Commissioner to replace the State Revenue Commission. The law provides for a complete reorganization of administration of taxation in the State (H.B. 27). Kentucky coordinates the functions and reclassifies the laws governing the duties of the revenue department (H.B. 5). Additional duties are assigned to the two associate members of the Mississippi tax commission, who are given the titles of Ad Valorem Commissioner and Excise Commissioner (H.B. 735). Wisconsin provides for the reorganization of certain state departments (S.B. 9). To study its tax laws, New Jersey has created a commission of 16 members (Ch. 95). Cities and towns of Georgia are permitted to set up boards of tax appeals (H.B. 29). Texas permits councils of cities and incorporated towns to act as a board of equalization (H.B. 110), while Kentucky has created a board of equalization for the City of Louisville (H.B. 283).

ASSESSMENT

Laws relating to assessment define the assessable property, declare the frequency of assessment, and indicate the level at which property may be assessed in relation to actual or market value. Kentucky amends her law relative to taxation of intangibles and provides that the intangible property of non-residents, including foreign corporations, shall be taxed if such property has acquired a business situs (H.B. 10). In another law, Kentucky defines land improvement and personal property for the purpose of assessment, and requires assessment annually (H.B. 287). Assessors may assess property at less than actual cash value in Louisiana (H.B. 265). The Texas voters approved, in 1937, a constitutional amendment which prohibits assessments in excess of fair cash market value, and which allows discounts for timely payment of *ad valorem* taxes (Resol. 23).

Assessments in Illinois must be at "fair cash value" and in Pennsylvania at "market value". The assessment basis of each State has been interpreted to mean the amount the property would command in exchange in a voluntary purchase and sale (12 N.E. 2d 666, 199 A. 225). The statute of South Dakota, which provides for assessment at "true value", is not violated when the valuation placed upon land is in excess of true value. An assessment is unjust only when a value placed upon a property is in excess of comparable property (276 N.W. 264). Oregon's statute of 1933 required valuation at the "true cash value". The definition presumes normal condition and not boom and depression periods. To arrive at correct value one must consider such elements as cost' price, rentals, cost of reproduction, and market value. The valuation which is based solely upon liquidating and market value is not enough (76 P. 2d 974).

TAX LIMITATION

The many government units are enabled to levy taxes for special purposes and some for general purposes. A property tax may be levied by counties of Georgia for the purpose of paying the salary of county agricultural and home demonstration agents (H.B. 322). Cities of Kentucky are enabled to levy a tax upon all property to provide funds for support of municipal bands (H.B. 299). A state *ad valorem* tax is levied by Kentucky on distilled spirits stored in warehouses (H.B. 357). Louisiana permits sewerage districts to levy whatever rate of tax may be levied for maintenance (H.B. 27), and also allows a two-mill tax for support of tuberculosis patients (Act. 358). A one-mill tax may be levied by the seventh class counties of Mississippi for treatment of indigent sick (S.B. 291). Flood control districts of Mississippi are limited to a two-mill tax (S.B. 529).

The authority of New York city to levy special taxes for unemployment relief is extended until July, 1939 (A.B. 1454). For the purpose of repairing public roads, Tennessee allows those counties having a population of not less than 45,805 and not more than 45,820 to levy a special property tax (H.B. 19). South Carolina passed several laws each of which defines the taxing powers of the specifically named county. Such counties may levy property taxes either for specifically named purposes, as roads and schools, or for general county purposes (Act 1027, 1051, 1052, 1068, 1072, 1102). The State has repealed the general two and one-half mills state property tax levy (H.B. 1322) and also the state three-mill levy which previously had been levied for school purposes (Act 1038).

Three States provide for taxes affecting schools. California validates the bonds of school districts and authorizes a property tax levy to pay for such bonds (Ch. 21). To provide funds for construction of schools the first class cities of Kentucky are enabled to levy a property tax of from four to ten cents per $100 of valuation (H.B. 358). Virginia has revised the law providing for the levying of taxes and the appropriating of money in counties, cities, and towns for public school purposes.

For general purposes New Orleans is authorized to levy a tax of two mills upon all taxable property (Act 197). The authority to collect delinquent license and personal property taxes (H.B. 69) has also been restored to New Orleans.

Mississippi effects a general revision of the county, road district and school district *ad valorem* taxes to provide a definite method of levying such taxes and to define the limits of the levies (H.B. 216).

DISPOSAL OF PROPERTY TAKEN FOR TAXES

A variety of plans is in evidence for disposing of property acquired by reasons of non-payment of taxes. Louisiana makes possible the homesteading of the farm lands (Act 235), and authorizes any municipal corporation to enforce collection of taxes on adjudicated property by leasing or renting such property (Act 112). Cities and towns of Massachusetts (Ch. 358) and of New Jersey (Ch. 300) are instructed on the care and disposal of land acquired through foreclosure of tax titles (Ch. 358), and on the selling of property with easements and agreements running with the land (Ch. 339). Kentucky amends the property tax law relating to sale of tax delinquent lands.

TAX REMISSIONS AND WAIVERS

Where taxpayers have been delinquent they have been given time extension, an abatement of interest or a waiver of interest and penalties. California extends the time, from one year to ten years, for paying delinquent taxes, which may be paid in a lump sum or in installments (Ch. 17). In Ohio, whenever a mortgagee pays taxes on mortgaged premises, and when any reduction is granted, the collector shall credit the remission of taxes to the taxes next levied on such premises (Ch. 152). An earlier law of Ohio, which allows partial remission of taxes in lieu of rent on premises occupied by indigents, is extended for another year (H.B. 746). Massachusetts reduces the rate of interest on unpaid local taxes (Ch. 330), and provides for a reduction of certain taxes (Ch. 478).

Since the constitution of Nebraska did not prohibit the imposition of penalties for non-payment of taxes, the legislature was held to have the authority both to impose and abate or waive penalties (277 N.W. 57). North Dakota state law (1937) provided that county commissioners may permit delinquent taxpayers to make payments in installments without penalty or interest. This statute was interpreted to provide permissive rather than mandatory powers (278 N.W. 243). South Carolina grants a discount for payment of taxes, in specified counties, in advance (H.B. 1393). New York provides that where payments of assessments may be made in installments, in villages, the claims shall become liens in equal installments (Ch. 419).

The New York law (S.B. 1484), as well as that of New Jersey (Ch. 139), applies to the several specifically named counties, each of which is permitted to compromise on unpaid county taxes. Virginia empowers the boards of supervisors of counties and the governing bodies of cities and towns to release the liability and liens for interest, penalties, and other costs for taxes unpaid for any year, or years, prior to 1938, provided such taxes are paid within a year after the effective date of the act (H.B. 166, H.B. 240).

REDEMPTION OF PROPERTY

Very few States found occasion to amend laws relating to the problem of redemption. Louisiana clarifies her law in minor details (Act 47), and provides that property adjudicated to the State in default of a bidder shall continue to be assessed during the period allowed for its redemption (Act 111). An extension of time is provided for by Virginia within which to make application for redemption (H.B. 208).

Several decisions define the time available for redemption of property. The two-year period allowed for redemption of property, after tax sale, begins to run from date of sale rather than from date of the tax sale certificate (42 N.M. 295).

In Louisiana a tax debtor has the right to redeem property adjudicated to the State 12 months after adjudication (179 So. 466). According to the Idaho law, a bid at a tax sale, in order to terminate the right of redemption, must be made in conformity with the terms of the sale, as advertised and as authorized by the county commissioners (74 P. 2d 87). In Georgia, a tax sale to a county is not complete, so as to start the statute running against the owner's right of redemption, until the county has paid the full amount of the bid, including taxes and interest thereon due the State (196 S.E. 405).

TAX EXEMPTIONS

Exemptions are granted to encourage the localization of industry, the building of new homes and retaining of others; to foster eleemosynary institutions, and to meet the several problems arising out of the activities of the National Government.

Amendments of the Mississippi law reduce the span of time, from ten to five years during which manufacturing enterprises may be tax free (H.B. 464, S.B. 77), and exempts from all taxation the physical property of cooperatives, used or useful in the distribution of electricity (H.B. 122). In South Carolina, a new manufacturing enterprise, before it may claim exemption from county and/or municipal property taxes, must invest a specified minimum of capital. This minimum varies from county to county (H.B. 1810, H.B. 2472). An amendment to the constitution of Louisiana exempts new homes (Act 38). In Georgia, real property to the value of $2,000 is exempt as a homestead (S.B. 2); and exemption is granted on personal property to the value of $300 (S.B. 1). Mississippi exempts poultry, farm tools, and fishing equipment in hands of producers (H.B. 184), and all standing or growing timber less than 12 inches in diameter one foot from the ground (H.B. 1092). Money in banking institutions, belonging to persons or firms individually or in a fiduciary capacity, is exempt from the personal property tax in New Jersey (Ch. 390). Rhode Island proposes a constitutional amendment relating to exemptions.

Eleemosnary institutions in Richland County, South Carolina, enjoy exemption on certain properties from all taxes, except the state tax (Act 1039). Rhode Island increases the tax exempt acreage for specified institutions (H.B. 775).

There is loss of tax revenue to the jurisdictions in which the National Government has purchased land for resettlement projects. Mississippi has authorized the tax commission to enter into negotiations with the Nationl Government for payment of sums in lieu of taxes (S.B. 134). California (A.B. 1, 3) and Illinois (Sec. 2, Rev. Act of 1872) have amended their laws so as to provide for exemption of properties of the Federal Housing Authority. Mortgages held by the agencies of the United States Government and which are due to loans made to the Rural Electric Membership Associations, are exempt from the mortgage tax (Tenn., Ch. 11). South Carolina exempts for ten years all rural electrification lines and additions thereto from the property tax (Act 1042). New York provides for the exemption from the mortgage tax of mortgages executed by the mutual savings banks (Ch. 721).

PRIORITIES AND LIENS

Taxes constitute the first charges upon the funds in hands of public authorities (Ala., 179 So. 197). A preference over general creditors must be given to general taxes, over sales tax and debts due the State and its sub-divisions (2 N.Y.S. 2d 451). Tax liens take priority in reverse order of other liens; the last tax is the paramount tax. State and county taxes take precedence over village taxes. A statute which declared that village taxes shall be a lien prior and superior to every other lien violates this rule of priority. And in absence of a contrary statute a general tax is superior to that of a special assessment (3 N.Y.S. 2d 327).

Whether a tax on personal property can constitute a prior lien is a question that is answered in two decisions. In Indiana a tax is not a lien on personal property but is a personal obligation of the taxpayer. This becomes a lien, inferior to prior existing liens, only when the property is levied upon (12 N.E. 2d 499). The Arizona law of 1931 provided that a taxpayer's realty is subject to lien for taxes on his personalty. To claim superiority over a realty mortgage a lien for personal property taxes must have been attached prior to the recording of the realty mortgage (77 P. 2d 818). Massachusetts provides for attaching liens for water rates and charges. Land may be taken and sold to satisfy the lien (Ch. 415).

CORPORATION AND BANK TAXES

By Frank Bain

Professor, Baylor University

FEDERAL REVENUE ACT OF 1938

Objecting particularly to the content of two provisions, the capital gains and losses tax and the undistributed profits tax, President Roosevelt allowed the revenue bill to become law on May 28 without his signature. The Revenue Act of 1938, unlike the 1937 law, is a comprehensive statute which largely supersedes the previous laws. Besides revising the personal income, excise, estate and gift taxes, the new act revises the several taxes applicable to corporations and banks.

NORMAL RATES ON CORPORATE INCOMES

Following the precedent of the 1935 law the normal tax rate on net income of corporations, excepting banks and other corporations, is a graduated rate. Whereas the 1936 law provided for normal tax rates ranging from eight per cent to 15 per cent of net income, the present law provides for rates of 12½ per cent to 32 per cent. For corporations with net incomes of less than $25,000 the rates range from 12½ per cent to 16 per cent; and for those with the net incomes of $25,000 and over the rates spread from 19 per cent to 32 per cent. The latter group of corporations has available three alternative, and complicated, methods for computing the normal tax due.

Several classes of corporations are excepted from the general normal tax rates. Incomes of China Trade Act corporations, insurance, mutual investment, and trust companies, and of banks, among others, are subject to a rate of 16½ per cent, irrespective of the size of the incomes. Incomes of the nonresident and resident foreign corporations bear 15 per cent and 19 per cent rates, respectively. Most of the rates exceed those of 1936 statutes by one and one-half per cent.

EXCESS PROFITS TAX

The excess profits tax, like the normal tax, bears a graduated rate. The six per cent rate applies to the income which is ten per cent to 15 per cent of the declared value of capital stock; and the 12 per cent rate applies to income in excess of 15 per cent. The rates and brackets remain unchanged from the 1935 law.

A penalty surtax is continued on corporations which improperly accumulate surpluses. A 25 per cent rate applies to the retained income of $100,000 or less, and the 35 per cent rate applies to retentions of over $100,000. The 1936 law provided for rates of 15 per cent and 25 per cent on like brackets. The current law restores the rates of the 1935 statute.

Personal holding companies will continue to pay a surtax on undistributed net income but at rates higher than those of the 1936 law which began at eight per cent and ended at 48 per cent. Now they begin at 65 per cent and end at 75 per cent. By reason of change of definition of personal holding company the personal finance companies, for example, are now excluded, and the smaller transportation companies are included.

The undistributed profits tax is retained, at greatly reduced rates, for the years 1938 and 1939. The Senate was strongly disposed to eliminate this tax. Whereas the previous maximum rate was 27 per cent, the present maximum rate is two and one-half per cent.

Capital stock tax, at the rate of one-tenth of one per cent, is continued unchanged from 1936. A corporation may declare anew, beginning in 1938, each three-year period the value of its capital stock. However, the three-year period does not apply to corporations emerging from bankruptcy.

ESTATE AND GIFT TAXES

Several changes have been made in the estate and gift taxes. Two changes affect corporate fiduciaries. Earlier laws allowed a trustee an exemption of $1,000. The present law allows $100. Also, heretofore there was allowed a yearly exemption of $5,000 on gifts to any one individual or trust. Beginning in 1939 this exemption will not be allowed to a gift in trust, although still permitted to an individual in the reduced amount of $4,000. There was no change made in the total exemptions of $40,000 each for estate and gift taxes.

CAPITAL GAINS AND LOSSES

The changes in the capital gains and losses tax apply to individuals, estates and trusts. The 1938 act continues unchanged those provisions which apply to corporations. As before, the corporate capital gains are taxable in full. The deduction of capital losses is limited to the amount of capital gains, plus $2,000. Although the capital gains and losses of individuals are separated into short-term and long-term gains and losses, such a separation is not provided for corporations. Since corporate gains are taxable in full, time is not an element for consideration.

The current statute altered the definition of capital that is to be subject to the gains and losses tax. Capital assets used in the business, and subject to depreciation, are not included among the taxable assets. A loss arising from the sale of a capital asset, which was used in the business, is treated as an ordinary loss, deductible, less $2,000, from ordinary income. These changes apply to all taxpayers, individual and corporate.

STATE FRANCHISE AND OTHER TAXES

New York extended for another year the temporary increase of franchise tax rates (A.B. 253); amended the Stock Corporation Law and the Tax Law relating to capital and changes in capital (A.B. 1976); and altered the law relating to the allocation of stock in other corporations for the purpose of computing the tax (Ch. 541). Georgia enacted a new corporation law authorizing the chartering of corporations, and provided for a new schedule of filing fees (S.B. 28). The New Jersey law prevents the dissolution or merger of corporations until state taxes are paid (A.B. 339, S.B. 174).

A franchise tax is not assessable against a corporation which does not exercise a special privilege. Kentucky was not allowed to assess a pipe line company which owned and used its pipe line for transporting its own oil, because none of its right of way was acquired by exercise of powers of eminent domain (22 F. Supp. 44).

New York State provides for separate franchise taxes on holding and on investment companies. A holding corporation which temporarily invests its idle funds in marketable securities does not, for that as the only reason, act in the capacity of an investment corporation; and accordingly it is not subject to the tax applicable to the latter class of corporations (2 N.Y.S. 2d 994).

In Alabama the franchise tax on foreign corporations is measured by the amount of capital employed in the State. It was held not permissible to include in the base the value of rented property. It is not the value of the property rented but rather the amount of rent paid on rented property that can properly be included in the tax base (179 So. 541).

The constitution of Virginia provides for a levy of a gross receipts tax on railway corporations. This provision is interpreted to be broad enough to include the receipts of the railway's subsidiary bus lines, excepting those lines which pay the privilege tax to the municipalities (194 S.E. 775).

UTILITIES TAXES

The Illinois legislature convened in special session principally to consider the continuation of the three per cent tax rate on gross receipts of utilities. It was decided to continue this tax for another year. New Jersey provides for an excise tax on corporations using public streets, highways, etc. No substantial change was made in the method of taxing these corporations. However, a change is made in the basis of distribution of taxes to the municipalities which receive the tax (Ch. 7 and 8). For rate making and other purposes, Virginia amended the tax code in relation to special taxes on the properties of certain classes of public service companies (Ch. 33).

The strips of paving along the street car tracks of the Chicago Railways Company, which the city required the utility to provide, were held not taxable as tangible personalty, notwithstanding the alleged attempts of the city to surrender authority over the strips (15 N.E. 2d 705).

INSURANCE CORPORATION TAX

California amended her gross premiums tax law on insurance companies (Ch. 20), and proposed an amendment to the constitution which would add a new section relating to taxation of insurance companies (S.C.A. 1). Arkansas amended several sections of the insurance statute, providing for taxation of foreign insurance companies (S.B. 25). Kentucky deleted the statute allowing an insurance company, which had paid premiums to another company for reinsurance, to deduct reinsurance premiums from the gross premiums (H.B. 241). Reports are now made to the Director of Insurance concerning the amount of reinsurance business on Kentucky risks going to unauthorized companies (H.B. 243). More definite tax measures affecting the stock companies, other than life, were enacted by New Jersey (Ch. 245). Virginia amended and reenacted several sections of the insurance law pertaining to taxation (Ch. 38, 39).

The Illinois statute, which imposes a privilege tax on foreign insurance companies, is not retroactive when the current year's tax is measured by the amount of business done during the preceding year (15 N.E. 2d 847). If the statute provides for taxation on the basis of the cash value of the realty and tangible personalty, the State may not include the premium receipts in the tax base of foreign insurance companies (Tenn., 113 S.W. 2d 1176). A New Jersey corporation having a business situs in New York, but not taxed there, was held taxable by New Jersey on the paid-in capital stock, cash on hand and on deposit (including deposits in New York banks), unearned premium and reserve for losses (198 A. 837).

California, which imposes a privilege tax on insurance companies, and measures the tax by gross premiums, may not include in the base the premiums received from reinsurance of risks located outside the State. Such reinsurance is not embraced in any privilege granted by that State so as to be taxable as such (58 S. Ct. 436).

CORPORATION INCOME TAX

Three cases may be mentioned whose conclusions affect the taxation of corporate incomes. The Indiana gross income tax law was reviewed to determine whether the income from tax exempt bonds of municipalities is taxable. The conclusion reached was that, although the bonds are exempt from taxation, the interest from the bonds must be included in the income tax base (58 S. Ct. 913). A comparable question arose relative to the income tax law of Iowa (58 S. Ct. 102).

Where a state statute permits, as it does in Pennsylvania, a corporation which owns a majority of voting stock of another corporation may file a consolidated income report. The paying of an income tax on the basis of the combined report does not constitute a violation of the uniformity provisions of the constitution (197 A. 239).

BANK TAXATION

The question whether a State may tax an instrumentality of the National Government is found reappearing again in court decisions. A Kentucky court reasserted that national banks cannot be taxed by a State or by any of its subdivisions, except in manner permitted by national legislation (114 S.W. 2d 719); and a Louisiana decision reaffirmed that this exemption is limited to governmental functions (179 So. 84). The limitation upon the power to tax national banks is not a restriction upon a State to tax banks of its own creation (279 N.W. 410). By reason of Congressional legislation the States may levy an *ad valorem* tax on real property of national banks. This tax must be non-discriminatory (20 F. Supp. 810).

The California state retail sales tax does not interfere with the exercise of functions by the Federal Government when it applies to purchases of supplies by the national bank. A national bank must pay the retail sales tax on the tangible personalty which it purchases (78 P. 2d 731).

A case arising in Pennsylvania raised the question whether the obligations of the United States held by a trust company would be excluded to determine the value of the shares of the trust company upon which the State contemplates levying a property tax. It was held that the State need not make any exemption or concession with respect to obligations of the United States, or its instrumentalities (but it must exclude the national bank stock), to determine the taxable value of the shares of the trust company (58 S. Ct. 295).

ESTATE AND INHERITANCE TAXES

By H. R. Enslow

New York State Department of Taxation and Finance

FEDERAL DEVELOPMENTS

The Federal Revenue Act of 1938 became a law May 28 without signature of the President. No changes in the rates of the estate and gift taxes were made. The gift tax exemption was reduced from $5,000 to $4,000 for the calendar year 1939 and thereafter. The Commissioner of Internal Revenue was permitted to extend the time of payment of estate taxes over a period of ten years instead of eight years as formerly. Another amendment provides that when extension of time for payment is so granted the interest rate shall be four per cent rather than six per cent.

Treasury decision 4797 superseded previous regulations concerning inspection of tax returns, such inspection having been authorized by an executive order. An estate tax return may be inspected by the executor or his attorney and a gift tax return by the donor or his attorney. Publicity may be given to both estate and gift tax returns filed after June 16, 1933. If a State makes its returns available to the Federal officers, its officers may consult Federal returns in connection with tax matters.

SUPREME COURT DECISIONS

The United States Supreme Court handed down decisions in several cases concerning estate and gift tax matters. In *Foster v. Commissioner* it was held that the full value of property held in joint tenancy by husband and wife must be included in the estate of the husband when it can not be shown that any part of the consideration paid for the property was contributed by the wife. *Helvering v. Bullard* found section 302 (c) of the 1926 Act as amended, which requires inclusion in the gross estate of all property transferred with life interest reserved, constitutional as concerns transfers made after the effective date of the 1931 amendment but which according to *Hassett v. Welch* and *Helvering v. Marshall* may not be applied retroactively. In *Helvering v. Bowers* it was held that where the husband has furnished the entire consideration of property held with his wife as tenants by the entirety, the full fee simple value must be included in his gross estate. *Taft v. Commissioner* was to the effect that several amounts pledged to an educational institution for various purposes must be included in the estate because they were not "claims incurred or contracted bona fide and for an adequate and full consideration in money or money's worth." Payments made by the executor to fulfill such promises were not deductible transfers, such deduction being limited only to testamentary dispositions. *Lang v. Commissioner* answered several questions concerning inclusion in the gross estate of the proceeds of insurance policies, premiums on which were paid out of Washington State community funds. *Colorado National Bank of Denver, etc. (Estate of Hendrie) v. Commissioner* found that an irrevocable transfer in trust made at 80 years of age was not in contemplation of death when the dominant motive was to safeguard trustor's descendants in event his market speculation should go awry. Trustor died five and one-half years after making the trust.

THE GREEN CASE

As pointed out in this section in 1937, Texas, Florida, New York and Massachusetts have been in conflict as to which should have the right to tax the estate left by Colonel Edward Green, the son of Hetty Green. Each State claimed that he was domiciled there. In November, 1938, the special master appointed by the Supreme Court found that he was domiciled in Massachusetts. If the court approves the finding, Massachusetts will collect a tax of almost $5,000,000. The Federal tax paid was approximately $17,500,000. The entire estate amounted to some $36,000,000.

STATE LAWS

New York and Massachusetts by 1938 legislation continued the additional temporary rates. A constitutional amendment adopted in New York at the November election provides that property held in trust in New York may be subjected to death taxation if another State has not jurisdiction to tax such property. New Hampshire voters rejected a proposed constitutional amendment which would have enabled the legislature to levy graduated and progressive taxes on property transferred at death. Legislation in New Jersey provided a penalty for keeping false records used in the computation of the death tax. Another chapter extended to June 30, 1939 the period in which the tax commissioner may adjust unpaid taxes in instances when delinquency is occasioned by absence of market for property or inability to obtain loans with which to pay the tax. A third amendment provided that the commissioner may apply a refund or deposit toward the satisfaction of a debt to the State for any sort of tax. Congress, legislating for the District of Columbia, in 1938 amended the inheritance tax law enacted in 1937 so as to include for tax purposes the real property and the tangible personal property of nonresidents who have acquired taxable status in the District.

AUTOMOBILE TAXES

By Beulah Bailey Thull

New York State Department of Taxation and Finance

TAX REVENUES

Since the advent of the automobile there has been a yearly increase in the number of motor vehicles registered in the United States. Each succeeding year seems to reach an all-time high. In 1936 there were 28,211,291 registered cars and in 1937, 29,705,220. During this period registrations decreased in only two States, Nebraska 3/10 of 1 per cent and South Dakota 9/10 of 1 per cent. The largest percentage of increase was in Arizona 12 3/10 per cent followed by Michigan with a 9 9/10 per cent increase in registrations.

The revenue from registration fees and drivers' licenses increased from $359,783,000 in 1936 to $399,613,000 in 1937, an increase of 11 per cent. Three more States require operators to be licensed—Illinois, Louisiana and Mississippi. The revenue from state motor fuel taxes increased from $686,831,000 in 1936 to $756,930,000 in 1937, an increase of 10 per cent. The total state tax paid by automobile owners excluding personal property taxes and sales taxes was for 1937, $1,156,543,000.

This is not, however, the entire tax burden on the motor vehicle owner. There is also a Federal tax on automobile parts, a one-cent Federal tax on gasoline and a tax on lubricating oils. In the fiscal year ended June 30, 1938, the excise tax on parts yielded $89,617,691; the gasoline tax $196,532,813 and the tax on lubricating oil which is paid in part by motorists $31,463,000. If only $7,500,000 of the lubricating tax is allocated to the motorists there is a total 1937 tax bill for the motorist for the privilege of owning a car and of using the highway of $1,450,000,000.

DISTRIBUTION OF TAX REVENUES

The paramount question of automobile taxes was again in 1938 as in 1937 the distribution of the revenue. Should it or should it not all be used for highways? In every State the constitution is the court of last resort so seven States endeavored to settle the matter permanently by constitutional mandate. Three States were successful. In California an amendment restricting the use of motor fuel tax revenue to street and highway purposes was adopted. In Michigan an initiative measure restricting the revenue from both motor vehicle fees and motor fuel taxes to highway purposes was adopted. A similar amendment was adopted in New Hampshire. Alabama rejected a constitutional amendment restricting the use of motor vehicle funds. Arkansas rejected an amendment which would have pegged the revenue from gasoline and motor vehicles at $8,985,000. In New York State a proposed amendment to restrict the use of motor vehicle monies was defeated in the constitutional convention itself.

The Bureau of Public Roads of the United States Department of Agriculture has issued exhaustive figures on the disposition of motor vehicle and motor fuel monies. During 1937, $119,404,000 or 15 per cent of the revenue from the tax on motor fuels was used for non-highway purposes; $48,071,000 went into the general fund; $32,825,000 was spent for relief; $31,365,000 was spent for education and $7,143,000 for various purposes.

Only 9 per cent or $38,096,000 of the revenue from motor vehicle registration fees was used for non-highway purposes; $25,089,000 went into the general fund; $6,858,000 was spent for unemployment relief; $5,508,000 was spent for education and $641,000 for various purposes.

The economists of today do not look with favor upon the earmarking of revenues. If the theory of earmarking revenue were applied to all state taxes, it would be a problem to obtain revenue for non-revenue producing governmental services.

STATE TAX RATES

The year 1938 is the first since a state gasoline tax was first levied that there has been no increase in a state tax rate. The rates in the various States are far from uniform ranging from two cents to seven cents per gallon, but it would seem that they have become stable at least for one year. It is true that Missouri had the groundwork set for increasing the tax rate from two cents to three cents. The constitutional restriction to a two-cent tax expired Dec. 7, 1938. The 1937 legislature passed a bill effective Dec. 8, 1938 making the rate three cents. But in Missouri such legislation must be submitted to the people, and the people rejected the increase at the 1938 November election.

In 1937 16 States had a flat rate registration fee for motor vehicles. Georgia adopted the flat rate in 1935 but Jan. 1, 1938 Georgia repealed the flat rate and returned to weight as the measure for the registration fee. This was the only State that in 1938 made a radical change in the registration fees on motor vehicles and in fact for the last few years there has been very little state legislation in regard to fees on pleasure cars.

REGULATION OF MOTOR CARRIERS

The still unsettled question is the regulation of motor carriers. Thirty-six States now regulate motor carriers through a system of fees and taxes. Louisiana passed a motor carrier act in 1938. This act imposes an annual tax of $10 per vehicle, an application fee for the certificate of convenience of $25 and an additional fee of $25 for approving the disposition of the certificate, and a fee of $10 for permit to operate. Of these 36 States, 30 levy fees ranging from $5 to $50 for an application for a certificate of public convenience and necessity, and six for a common carrier permit. Eight States have annual common carrier fees based on gross revenues and 16 States fees based on mileage. South Carolina levied a tax of 1/10 of 1 cent per ton mile payable to the Public Service Commission. Two States, Alabama and Oregon, use both revenues and mileage as the measure for the annual fees. One State, Alabama, has 11 distinct regulating fees on common carriers. It would seem that here is a ripe field for legislation, legislation that would simplify the present complex set-ups and ease the States' burden of administration and the motor carriers' burden of reports and computations.

In 1938 New York State placed trucking under the Public Service Control. Buses have been subject to this control since 1931. Trucks must now carry cargo insurance and buses must carry cargo insurance in addition to passenger insurance. This so called Rapp Act of New York State is a little more far reaching than similar legislation in other States as it makes shippers and consignees equally liable to punishment in case of discriminatory rates.

DIESEL FUEL TAXATION

Another question agitating the tax authorities of the various States and one yet to be settled is the taxation of Diesel fuel used to propel motor vehicles on the highways. Fuel used for the operation of Diesel engines is the same which is commonly used for domestic heating purposes. This fuel is marketed not only by motor fuel distributors but also by coal companies, fuel oil jobbers and many others. It is evident that it is impossible to collect a tax on this fuel through the licensed distributors as they are only one group among many selling it. Many States, including New York, make the owner of a motor vehicle using Diesel motor fuel the distributor and hold him responsible for the tax. Utah levies a tax of 1⅛ cents per mile on passenger cars and of 1½ cents per mile on carriers using Diesel fuel. It is a question yet to be settled.

PERIODICAL PUBLICATIONS

American Economic Review
Northwestern University, Evanston, Ill.

Annalist
The New York Times, Times Sq., New York City.

Commercial and Financial Chronicle
William and Spruce Streets, New York City.

Journal of Political Economy
5750 Ellis Ave., Chicago.

Nation's Business
Chamber of Commerce of the United States, Washington, D.C.

Quarterly Journal of Economics
Harvard University Press, Cambridge, Mass.

Tax Digest
15 East 26th. Street, New York City.

Tax Magazine
350 Fifth Ave., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Taxpayers' League, Munsey Building, Washington, D.C.

National Highways Assn., Bass River, Cape Cod, Mass.

New England State Tax Officials Association, Room 236, State House, Boston, Mass.

Tax Policy League, 309 East 34th Street, New York City.

Tax Research Institute of America Inc., 292 Madison Ave., New York City.

Tax Revision Council, 850 East 58th Street, Chicago, Ill.

North American Gasoline Tax Conference, 844-46 Consolidated Bldg., Indianapolis, Ind.

DIVISION VIII

PUBLIC RESOURCES AND UTILITIES

FEDERAL SURVEYS AND MAPS

By W. L. G. Joerg

Chief, Division of Maps and Charts, The National Archives

SCOPE OF FIELD SURVEY MAPPING

The standard topographic mapping of the United States is carried on by the Geological Survey of the Department of the Interior. In spite of the fact that the area covered by new topographic surveys, resurveys, and revision amounted to 13,583 square miles during the fiscal year ended June 30, 1938, which yield 198 contoured topographic sheets in 35 States and Puerto Rico, the anomalous situation has developed that, statistically, the area of the United States covered by the topographic maps of this Federal agency has decreased to 45 per cent from the 47.4 per cent reported during the preceding year. This is due to the rigorous critique of its own work exercised by the Geological Survey, as a result of which maps of areas in the West totaling 79,668 square miles, which had been surveyed prior to 1896 by reconnaissance methods, were withdrawn from distribution and classified as unmapped. On the proportion of adequately mapped, inadequately mapped, and unmapped areas in the United States, see The American Year Book, 1937, p. 259. In addition to the 13,583 square miles surveyed topographically, 2,077 square miles were mapped without relief, mainly in Louisiana and Missouri, and will be published as so-called planimetric maps on the scales of 1:31,680 and 1:48,000. Of the maps resulting from the year's topographic surveys about two-fifths will appear in 1:62,500, one-fifth in 1:24,000, another fifth in 1:31,680, and about one-tenth in 1:125,000.

ARMY ENGINEERS' MAPS

Although the standard topographic mapping of the country is carried out by the U.S. Geological Survey, a number of other Federal agencies are engaged in surveying work that supplements or contributes to the program as a whole. The Corps of Engineers of the United States Army, besides its routine surveys relating to internal navigation, such as those of the Mississippi and other rivers and of the Great Lakes, is mapping topographic 'quadrangle' sheets that fit into the arrangement of those by the Geological Survey. Recently, field surveys were conducted for five sheets in the vicinity of Gray's Harbor on the Pacific coast of Washington and operations were begun for six sheets near Astoria and the coastal area south of the Columbia River in Oregon. The revision of the culture, or man-made features, on Geological Survey sheets near San Francisco and, farther south near San Luis Obispo, has been undertaken in California.

COAST SURVEY

The Coast and Geodetic Survey maps the coasts and coastal waters of the United States and publishes nautical charts of them. During the fiscal year 1937–38 over 34,000 square miles of coastal waters were surveyed, over 67,000 miles of sounding lines were run, and 862,000 soundings were made. Shoreline topography to an extent of 1,888 square miles along 2,613 miles of coast was covered. As to publication, revised editions of 123 charts and 15 new charts were issued. The total distribution of charts amounted to 351,000 copies, the greatest number ever distributed in one year in the history of the Survey. New technical developments include the completion and use of a nine-lens aerial camera which covers a large area at a single exposure, and the improved Dorsey Fathomer, or echo-sounding machine, with which a vessel under full speed can obtain 20 soundings a second. The camera was used, among other areas, to make an air survey of the head of Cheasapeake Bay in connection with the deepening of the Chesapeake and Delaware Canal for ocean-going vessels. The echo-sounder was used to make a hydrographic survey of the coastal shelf along the Gulf Coast of Louisiana and off New Jersey and Long Island.

SOIL SURVEY

Among the Federal agencies that make surveys dealing with other than surface configuration alone the Soil Survey Division of the Bureau of Chemistry and Soils is one of the leading of the long-established bureaus. Its work comprises the determination of the character of soils, the definition of soil types, the development of a uniform system of soil classification, the delineation upon maps of the boundaries of each soil type, and the interpretation of the capabilities of the soils for the production of crops, grasses, and trees. During the fiscal year 1936–37, for example, the soils of 27,350 square miles of rural lands in 33 States and Hawaii were mapped by the Soil Survey. This brings the total area covered by this agency to more than one-half of the arable lands of the country. Soil maps were published, generally on the scale of 1:63,360, of 25 counties or areas in 14 States; also a reconnaissance soil map of the whole of Vermont on a smaller scale. Many of the soil surveys being published currently contain tables showing the rating of the different soils in terms of their productivity and crop adaptability.

To the results of the work of the Soil Survey is devoted the entire volume of the *Yearbook* of the Department of Agriculture for 1938, under the title "Soils and Men." In this (pp. 1002–1015), one article by J. K. Ableiter deals specifically with soil maps—what they show, how they are made, and to what use they are put. The final section is devoted to a broad survey, accompanied by a map on the scale of 1:7,500,000, of the soil associations of the United States. Soil associations are described as representing individual types of landscape, defined according to the character of the soils that compose them and the pattern of their distribution. On the map local details have been submerged in order to present a general view of the features of broad significance. The map may be said to represent the latest phase of the application to the area of the United States of the geographical or climatic method of soil science, following the Russian school of pedology, an application to which were devoted the last endeavors of the late Dr. C. F. Marbut, long head of the Soil Survey, of whom a photograph and appreciation introduce this volume of the *Yearbook*. The generalization of the map of soil associations was made possible through the standard soil map of the United States on the relatively large scale of 1:2,500,000 published by Dr. Marbut in the *Atlas of American Agriculture* (see THE AMERICAN YEAR BOOK, 1935, pp. 265–266).

SOIL CONSERVATION SERVICE

Reference has previously been made in these reports (THE AMERICAN YEAR BOOK, 1936, pp. 251–252) to the initiation of the work in 1935 of this newly established agency. Utilizing air photography as the indicated solution of the Service's urgent problem of speedily securing a graphic record of the surface conditions throughout the greater part of the United States, the work has now progressed to the point where deductions from the air photographs may be supplied in the form of printed maps. Two series are being begun, one on the relatively large scale of four inches to the mile, the other, of a reconnaissance character, on the scale of two miles to the inch. The areas represented in the two series will be scattered as individual areas throughout the country, the selection of each area being dependent on the individual problems encountered. Both series show four aspects of the surface which come into consideration in any endeavor to create or restore satisfactory agricultural conditions: nature of the soils, degree of slope of the terrain, use to which the land has been put, and degree of soil erosion. The area of each map sheet is divided into small irregular areas in which various combinations of these four aspects occur in essentially homogeneous fashion. The combinations are expressed by so called fractional symbols, in which, for example, 3X/B8 would refer to a piece of abandoned farm land with a loam soil, slopes of 2 to 5 per cent gradient, and frequent gully erosion. During the past two years several sheets in the 1:15,840 series have been published of the White Rock Lake Watershed area of Texas and 20 sheets in the 1:126,720 series (accompanying U.S. Dept. of Agric. *Techn. Bull.* 556) of the wind-erosion ("Dust Bowl") area of the Great Plains in the Texas and Oklahoma Panhandles and adjacent areas in southwestern Kansas and southeastern Colorado. The degree of erosion in this 20-sheet area is summarized in a general map in 1:760,320 accompanying the same report. This last type of map represents the first fruit of generalization on the basis of detailed field surveys. The preliminary soil erosion maps in 1:500,000 of 31 States previously published by the Soil Conservation Service (THE AMERICAN YEAR BOOK, 1935, p. 266) represented compilations from known sources prepared at the commencement of the undertaking to meet the urgent need for planning its program.

COMPILED MAPS

The maps previously discussed are maps directly derived from field surveys, *i.e.* maps made by measurement of the ground whether directly on the surface or from the air. The second great group into which maps may be divided is the group of compiled maps, *i.e.* maps made by combining and adjusting data from other maps and from relevant sources of information. Their preparation hence primarily involves critique, or judgment in the evaluation of sources, rather than the representation of the observed and measured facts of nature. This second group is of course also included in maps published by the Federal Government.

PHYSICAL MAPS

The Geological Survey has published contour maps of Colorado and Texas on the scale of 1:500,000, thus adding to this important series of general maps which, for the still large areas of which no topographic sheets exist, constitute the sole authentic representation of relief (see THE AMERICAN YEAR BOOK, 1928, pp. 669–670). The Survey has also issued a geological map of Texas on the same scale (for previous 1:500,000 geological maps of States, see *ibid.,* 1929, p. 664). The Forest Service published a large map of Oregon and Washington on the scale of 1:250,000 showing forest types in detail. Generalized forest-type maps are in preparation for the timbered parts of Minnesota, Michigan, and Wisconsin.

TRANSPORTATION MAP

Of the Transportation Map of the United States in 1:250,000 being compiled and printed by the Geological Survey for the Bureau of Public Roads (THE AMERICAN YEAR BOOK, 1936, p. 254), maps of several States have been completed during the year. These include Maryland and Massachusetts, each in three sheets, New Hampshire and New Jersey, each in two sheets, and New York in eight sheets.

FUNCTIONAL CITY MAPS

A distinctive series of functional maps of American cities has been prepared by the Division of Economics and Statistics of the Federal Housing Administration. Of over 180 cities in the United States this series makes readily available in map form information as to differentiation between business and residential districts, age of buildings (permitting the preparation of maps showing the historical growth of cities), average rental of dwelling units, persons per room, race distribution, land coverage, and land use.

CONSTITUTION SESQUICENTENNIAL MAPS

As part of the celebration of the sesquicentennial of the ratification of the Federal Constitution there have been issued during the past two years, through the Division of Maps of the Library of Congress, facsimilies of contemporary maps of the original ratifying States. The list consists of Maine, from Mitchell's Map of the British Dominions, 1755; John Green's Massachusetts, 1774; Langdon's New Hampshire, 1784; Blaskowitz's Rhode Island, 1777; Roman's Connecticut, 1780; Sathier's New York, 1776; Faden's New Jersey, 1778; Pennsylvania, 1787; Griffith's Maryland, 1794; Thomas Jefferson's Virginia, 1787; Churchman's Delaware, 1787; Filson's Kentucky, 1784; Mouzon's North Carolina, 1775; Stuart's South Carolina, 1780; Daniel Smith's Tennessee, 1788; Roman's Georgia from his General Map of the Southern British Colonies, 1776.

TERRITORIAL TRANSFER MAPS OF EUROPE

A carefully worked-out series of maps accompanies the useful work *International Transfers of Territory in Europe* by Sophia Saucerman, published by the Department of State in 1937. There are five maps, all on the scale of 1:5,000,000, of Germany, the Baltic States, Poland, Austria-Hungary, and the Balkan States. By means of related areal tints, colored boundaries, and colored names, the pre- and post-World War territorial structure of these areas is brought out graphically.

EXHIBITS, MEETINGS, ETC.

Government maps have been displayed at various international and domestic scientific meetings. Most of the map-issuing and map-custodial agencies were represented in the map exhibit at the International Geographical Congress held at Amsterdam in July, 1938. The agencies using air-mapping methods had exhibits at the International Congress of Photogrammetry in Rome, September, 1938, and at the meeting of the American Society of Photogrammetry in Washington, January, 1938. At the Planning Technicians' Conference held in Washington in September, 1938, under the auspices of the National Resources Committee, an all-day session was devoted to mapping and graphic presentation and included a tour of the mapping agencies.

A new agency of the Government dealing with maps was established in March, 1937—the Division of Maps and Charts of the National Archives in Washington. Collections already transferred to it comprise maps from the Senate, State Department, Corps of Engineers, and the Office of Indian Affairs. They include original treaty maps, field sheets of boundary surveys, and early Western explorations. The original Mitchell map of the British Dominions in North America, 1755, and the Disturnell map of Mexico, associated respectively with the treaties of peace terminating the American Revolution and the Mexican War, are among them.

STATE GEOLOGICAL SURVEYS

By Raymond C. Moore

Secretary, Association of American State Geologists

GENERAL

Modern civilization depends to an important degree upon the use of mineral resources. As an aid to mineral development, 40 States had active geological surveys during 1938-39.

Available appropriations to the state geological surveys during the fiscal year were approximately $1,309,414. This amount was increased about $1,180,513 by the U.S. Geological Survey, U.S. Coast and Geodetic Survey, Works Progress Administration, U.S. Bureau of Mines, U.S. Department of Agriculture, and by state, county, and local organizations and individuals cooperating with state surveys, making a total of $2,489,927 devoted to the investigation of state mineral resources. Approximately 118 geologists and 71 other technical workers were employed full time and 157 geologists and 91 other workers part time on 524 state survey projects, including mineral resources, geologic, topographic, soil surveys, stream-gaging, and other projects. Some 372 technical reports and maps were being prepared for publication or published.

BASIC GEOLOGY *

Alabama. — Paleontology of the Coastal Plain Region of Alabama.

California. — Reports completed: Quarterly chapters of State Mineralogist's report in *California Journal of Mines and Geology;* minerals of California; bibliography of the geology and mineral resources of California for the years 1931-1936.

Connecticut. — Study of the bedrock geology of the western highlands of Connecticut; study of the pegmatite deposits in the eastern highlands of Connecticut.

Florida. — Detailed ground water study of Duval and Nassau counties; continuing studies of well samples. Reports ready for press: ground water study of western Florida; studies of well cuttings from two deep wells in western Florida; physiography of Florida (cooperative).

Illinois. — Pennsylvanian stratigraphy; Pennsylvanian paleontology; paleobotany of the Pennsylvanian system; subsurface studies of the formations of the Paleozoic system; Pleistocene system; Pleistocene drainage changes along the Mississippi River in northwestern Illinois and northeastern Iowa—cooperative project with Iowa State Geological Survey; geologic structures of the Illinois basin; areal investigations and geologic mapping: revision of geologic map of Illinois. Reports completed: geology and geological history of Chicago region, also sub-units.

Indiana. — Completed: geologic mapping of Charlestown and Jeffersonville quadrangles; preparation of articles on Indiana geology for scientific publications.

Iowa. — Loesses of Iowa; Pleistocene history; Pennsylvanian stratigraphy; subsurface geology; geology of Adams County; geology of Union County; geology of Audubon County; geology of Floyd County; geology of Green County; Cambrian strata of Iowa. Report completed: gravels of Iowa.

Kansas.—The Bronson group; subsurface studies of the Ordovician rocks; the Tertiary and Quaternary geology of southwestern Kansas. Completed: Mississippian limestone of Kansas (cooperative).

Louisiana. — Geology of Bienville and Jackson Parishes; geology of Natchitoches and Vernon Parishes; geology of Washington and St. Tammany Parishes; paleontological report on Claiborne microfossils. Completed: geology of Winn and Caldwell Parishes; geology of Avoyelles and Rapides Parishes; contribution to the Pleistocene history of the Florida Parishes of Louisiana.

Maryland. — Crystalline rocks of Maryland.

Michigan.—Magnetic and geologic surveys in the copper bearing districts; magnetic and geological surveys on the Menominee Iron Range, Dickinson County; geology and control of sand dunes. Completed: Isopach map of the drift of the Southern Peninsula.

Minnesota. — Geology of Cook County; stratigraphy of southern Minnestota; geology and water resources of the Duluth area; geophysical survey of Pine County fault. Completed: anorthosites of Lake County.

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* To conserve space, projects under each classification are listed without description. Details are available from the respective state geologist. Completed projects are indicated; all others are in progress.

Mississippi.—Mineral resources of Lauderdale County; mineral resources of Yazoo County; mineral resources of Union County. Completed: mineral resources of Winston County; mineral resources of Tippah County.

Missouri. — Stratigraphic studies southeast Missouri lowlands; stratigraphic studies southwest Missouri (Mississippian); preparation Isopach maps; preparation structure contour. Completed: revision of state geologic map.

Montana. — Physiography of Gravelly range; correlation of Cambrian strata; study of Paleozoic limestones of Montana.

Nebraska. — Carboniferous stratigraphy; subsurface geology; preparation of geologic map of state. Completed: mapping Tertiary formations.

New Jersey. — Observation and study of all new outcrops throwing light on the geology of the state; collection, identification and correlation of well samples.

New York. — Geology of quadrangles: Coxsackie, Catskill, Kaaterskill, Wellsville, Randolph, Cattaraugus, Morrisville, Indian Lake, Russell, Oriskany, Newburg (cooperative). Report: geology of the Clyde and Sodus Bay quadrangles.

North Dakota. — Report completed: stratigraphy of North Dakota.

Ohio. — Local studies in Pennsylvanian to determine both stratigraphic features and structures (field work mostly in Guernsey and Tuscarawas counties); stratigraphic studies of western Ohio limestones and dolomites.

Oklahoma. — Areal mapping and stratigraphic studies of lower Pennsylvanian in Washington County; stratigraphy of lower Pennsylvanian (Morrow) in Ozark Area; stratigraphy of middle Pennsylvanian in central Oklahoma. Completed: stratigraphic studies of Ordovician in Wichita and Arbuckle Mountains.

Oregon.—The geology and physiography of the Salem Hills and North Santiam River basin. Now in press: geology and mineral resources of Lane County, Oregon. Completed: state geological survey in Wallowa Mountains; report on geology of part of the Wallowa Mountains (cooperative).

Pennsylvania. — Martinsburg stratigraphy. Reports completed: Devonian of Pennsylvania; Oriskany of Pennsylvania; Helderberg of Pennsylvania; recent geologic history of Delaware Valley below the water gap; geomorphology of the Wyoming-Lackawanna region; a Paleozoic section of Delaware water gap; Paleozoic section in south-central Pennsylvania.

Tennessee.—Stratigraphy of Chester group in middle Tennessee; spore content of Tennessee coals; subsurface geology by insoluble residues. Completed: stratigraphy of the Stones River and Trenton groups in middle Tennessee; stratigraphy of the Knox group in east Tennessee (cooperative); Dickson County areal geology.

Vermont.—Reports completed: geology of the Green Mountains of Northern Vermont; geology of Clay Point, Vermont; geology of Vernon, Guilford, and Halifax, Vermont.

Virginia.—Geology of Great Gossan Lead; geology of Shenandoah National Park; geology of State; geology of Hot Springs district; geology and mineral resources of Frederick and Clarke counties; geology and mineral resources of Richmond district; geology and mineral resources of Giles County; physical features; rocks and minerals; geology and mineral resources of Amherst quadrangle; geology and mineral resources of Burkes Garden quadrangle; geology of state parks; outline of the geology and mineral resources of Highland County; limestones; guidebook of Lee Highway; limestones in Warm Springs area; sediments of the Richmond area. Completed: geology of the Appalachian Valley in Virginia; outline of geology and mineral resources of Scott County; geology and mineral resources of Warrenton quadrangle.

Washington. — Origin of certain gneisses and schists of the Kettle Range, Ferry County; tectonic map of Washington; thin sections of samples of all formations in Washington; monograph on paleobotany of Washington Tertiary; index to stratigraphy of Washington; stratigraphic studies on the Olympic Coast. Completed: compilation of bibliography and index of Washington geology and mineral resources.

West Virginia. — Completed: Greenbrier County geologic report; Ohio, Brooke and Hancock geologic map (revised).

Wyoming. — The Fauna of the Lewis shale; geology of the Little Shirley Basin area; geology of the area along the east flank of the Laramie Range from the Colorado-Wyoming line to Iron Mountain; geology of the east flank of the Laramie Range from La Bonte Creek to La Prele Creek. Completed: Pennsylvanian stratigraphy of the Laramie Range of southeastern Wyoming; stratigraphy of the Mississippian rocks of the southeastern party of Wyoming; geology of a portion of the east side of the Laramie Range in Albany, Laramie and Platte counties; structure of the southwest margin of the Laramie Basin.

OIL AND GAS

Arkansas.—Collecting samples of oil from fields in south Arkansas (cooperative).

California. — Summary of operations, California oil fields, issued quarterly by State Oil and Gas Supervisor.

Illinois.—Oil and gas stratigraphy and structure; physical and chemical tests of oil and gas cores; data on repressuring plant methods; studies of water flooding in Illinois oil fields; scouting of drilling wells. Report completed: history of oil and gas developments in Illinois in 1937; also sub-units.

Indiana.—Revision of oil and gas field maps and county dry hole maps; compilation of well records by counties; examination of well cuttings and samples; prevention of stream pollution by oil field wastes; compilation of structural data in oil and gas producing areas. Completed: preparation of annual reports on oil and gas drilling and production.

Iowa.—Oil and gas possibilities.

Kansas.—Collection of data on oil and gas wells of eastern Kansas; problems in petroleum technology. Completed: oil and gas developments during 1938; geology and oil and gas resources of Labette County; geology and oil and gas resources of Phillips County; geology and oil and gas resources of Rush County; geology and oil and gas resources of Barber County; bibliography of methods of secondary recovery of petroleum.

Kentucky. — Studies on porosity, permeability and oil content of oil sands. Report completed: structure and stratigraphy of the Birk City oil field.

Louisiana.—Report on the oil, gas and mineral industries of Louisiana for 1938.

Michigan.—Preparation, study and correlation of oil and gas and other well samples, compilation of well records; working out of oil and gas structures and preparation of maps; geological studies and progress reports and maps of oil and gas bearing counties, with particular reference to oil and gas developments and possibilities.

Missouri. — Preliminary report: southeast Missouri. Completed: field work and preparation of report on northwest Missouri; magnetic work southeast Missouri.

Montana.—Report completed: natural gas in Montana.

Nebraska.—Study of drilling wells.

New York.—Recent oil and natural gas developments.

North Dakota. — Survey followed progress of seismic investigation and deep test drilling by private companies.

Ohio.—Drawing of structural contours; collection of oil and gas well logs.

Oregon. — Bulletin 5 completed: geological report on part of the Clarno Basin, Wheeler and Wasco counties.

Pennsylvania.—Tidioute, Hilliards, Titusville, and Smicksburg quadrangles; stratigraphy (revised); deep oil and gas sands.

South Dakota. — Completed: survey of upper Missouri Valley gas field; structural survey of the Pierre gas field.

Tennessee. — Reports completed: oil and gas in Clay County; oil and gas in West Tennessee; magnetometer reconnaissance in West Tennessee.

Washington.—Oil and gas of western Snohomish County; continued laboratory examination of drill cuttings. Completed: compilation of oil and gas tests in State.

West Virginia.—Completed: well cuttings report; Wetzel County report.

COAL, COKE, AND PEAT

Alabama.—Warrior coal field.

Illinois.—Study of the constitution of Illinois coals; study of the constitution of commercial coal fines; general coal report; investigation of the physical properties of coal under three variables (temperature, pressure and time); composition and fusibility of ash from Illinois coals; proximate and ultimate analysis of coal; the nature of moisture in coal; review of the literature on the composition and constitution of coal. Completed: report on spores from the No. 6 coal bed in Illinois; structural map of Herrin (No. 6) coal bed in a group of southwestern Illinois counties.

Indiana. — Mapping of coal outcrops; collection of stratigraphic information in coal fields. Completed: supervision of abandoned slope and strip coal mines to prevent acid stream pollution.

Montana. — Beneficiation of Montana coals by flotation.

Oklahoma. — Research on coking coal.

Oregon. — Completed: *Bulletin 2*, progress report on Coos Bay coal fields; stoke tests on Coos Bay coal (cooperative).

Washington.—Catalog of coal mine locations.

West Virginia. — Coal report on West Virginia.

METALLIC MINERALS

Alabama.—Barite deposits of Alabama; brown ore of Alabama.

Georgia.—Investigation of gold deposits.

Indiana.—Completed: investigation of iron ore resources.

Michigan.—Investigation of numerous reported discoveries of gold, silver, platinum, mercury bearing areas in glacial drift (cooperative).

Missouri.—Report completed: Pyrite and Marcasite deposits.

Montana.—Geology and ore deposits of Rochester district; geology and ore deposits of Highland district; geology and ore deposits of Jardine district; platiniferous gold-copper deposits of Revais Creek district. Iridescent filming of sulphide minerals (three publications issued and study continued).

New Mexico. — The geology and ore deposits of the Little Hatchet Mountains, Grant and Hidalgo counties, New Mexico (cooperative). Completed: report on the geology and ore deposits of northeastern New Mexico including Union, Mora, Harding, San Miguel, Guadalupe and Quay counties; geology and ore deposits of the Lordsburg mining district, Hidalgo County, New Mexico (cooperative); the geology and ore deposits of the Magdalena district, New Mexico (cooperative).

Oklahoma. — Completed: preliminary report on iron ores of Wichita Mountains.

Oregon. — Reports completed: quicksilver in Oregon; chromite deposits in Oregon.

Tennessee. — Reports completed: zinc deposits of middle Tennessee; Perry County manganese (cooperative).

Virginia.—Blue Ridge hematite.

Washington.—Continuing compilation of card files for mines, mining companies, and mineral occurrences; list of mineral occurrences in State. Geologic examination of all mining operations; Cinnabar resources of State; chromite resources of State.

NONMETALLIC MINERALS

Alabama.—Limestone and dolomite deposits of Alabama.

Georgia. — Investigation of glass and rock wool materials.

Illinois. — Petrology of Illinois clays; physical properties of clays; composition and base exchange characteristics of Illinois clays and shales and the relation of these characteristics to their ceramic and other properties; clay resources of the Chicago area; beneficiation of fuller's earth; utilization of fluorspar; sand and gravel resources of Illinois; soundness of Chicago area dolomites; chemical stratigraphy of southern Illinois limestones; silicate melts. Reports completed: decolorization of clay and silica; summary of uses of limestone and dolomite; report on bumbotil as a potentional source of rotary drilling mud, bonding clay and bleaching clay.

Indiana.—Compilation of data on limestone resources.

Kansas. — Clay resources of Kansas; chalk resources of Kansas. Completed: new uses for volcanic ash.

Louisiana. — Report on sand and gravel deposits.

Michigan.—Studies on the occurrence of commercial limestones; studies of mineralized, especially brominiferous brines (cooperative).

Mississippi. — Laboratory tests of clays.

Missouri. — Clays southeast Missouri lowlands. Completed: barytes deposits.

Montana.—Clay resources of Montana; Montana chromite as refractory.

New Mexico.—Clays of New Mexico and their economic features.

North Dakota.—Sodium sulphate in North Dakota.

Ohio.—Study of western Ohio limestones and dolomites.

Oklahoma.—Preliminary study of phosphates. Completed: compilation of data on volcanic ash and bentonite.

Oregon.—Reports completed: preliminary report on some of the refractory clays of western Oregon (cooperative); the gem minerals of Oregon.

Tennessee.—Clay and shale report. Completed: phosphate report; molding sand.

Virginia. — Commercial granites; slate deposits; talc and soapstone deposits.

Washington.—Magnesite and dolomite resources of the State.

West Virginia.—Limestone report; clays of West Virginia.

GENERAL ECONOMIC

Arizona. — Completed: bulletin, *Some Arizona Deposits;* investigation of the geology and ore deposits of Superior district almost completed.

Arkansas.—WPA project sponsoring collection of marble samples from north Arkansas begun; WPA projects continued sponsoring statewide mineral survey, drilling to discover limestone in Pulaski and Saline counties. Completed: compiling and arranging statistics and composing text for *Wealth of Arkansas.*

Florida.—Mineral resources.

Idaho. — Studies of the clays of northern Idaho; cooperative projects in progress: Silver belt, Shoshone County; placer ground studies of the Secesh district, Central Idaho; geological survey of the Seven Devils region along Snake River; geology and mineral resources of the Rocky Bar district; geology and ore deposits of the Boise Basin district. Completed cooperative projects: high-bench placer ground studies of the Florence-Slate Creek districts; geology of the Murray-Pritchard gold district; geology and metalliferous deposits of Kootenai County, Idaho; geology and mineralization of the Atlanta district, Elmore County; geology and ore deposits of Warren-Burgdor district, Idaho County.

Illinois.—Annual economic survey and statistical review of the Illinois mineral industry in 1937; mineral resources of Illinois valley; geographic Atlas of Illinois; analysis of the domestic fuel market and report on potential markets for Illinois coal on the upper Mississippi waterway. Completed: annual statistical summaries of Illinois mineral industry in 1936.

Indiana.—Compilation of data on all mineral resources.

Iowa.—Rock wool material.

Michigan. — Completed: preparation of summary and general statements on the various mineral resources of the States with statistical tables of production and value for 1937 (cooperative).

Montana. — Beneficiation of Montana chromite and sundry other problems of beneficiation.

New York. — The mining and quarry industries of New York State for 1934–36.

Oregon.—Completed: investigation of feasibility of a steel plant in lower Columbia River section (cooperative).

Pennsylvania.—Geology and mineral resources of Fayette County, southern Clearfield County, York County. Lehigh County, and Brookville quadrangle in progress. Completed: Northampton County geology and mineral resources.

Washington. — Mineral identification service continued.

Wisconsin. — Road materials surveys.

TOPOGRAPHICAL AND AERIAL MAPPING

Arkansas. — Continued sponsoring of WPA project for triangulation and leveling in eastern Arkansas.

California.—Completed cooperative mapping project of 87 square miles.

Illinois. — Freeport, Ina, Milford, and Mulberry Grove quadrangles. Completed: Alton Pass (partial revision), Casey (formerly Oilfield), Lena, Monticello, and New Douglas quadrangles.

Indiana. — Topographic mapping throughout the State (cooperative).

Kansas.—Mapping of quadrangles in eastern Kansas (cooperative).

Louisiana.—64 quadrangles. Completed: 60 quadrangles.

Maryland. — State completely mapped.

Michigan.—Aerial and base mapping surveys of about 3,400 square miles of the state (cooperative).

Mississippi.—Three quadrangles.

Missouri. — 3,000 square miles of topographic maps.

New Jersey.—Revision of existing topographic maps. Report in progress on topographic work of Division. Revision of Chester and north half of New Brunswick quadrangles (cooperative).

North Dakota. — One 15-minute quadrangle, one to be started.

Pennsylvannia. — Orbisonia; Mifflinburg; Millheim (Coburn); Waterville (Ramseyville); Allentown West (Slatington).

Tennessee.—Completed: 50 county base maps with no topography (cooperative).

Vermont. — Topographic surveying in several quadrangles (cooperative).

Virginia.—Bermuda Hundred; Berryville; Burkes Garden; Capon Bridge; Charlottesville; Charlottesville and vicinity; Clarksville; Front Royal; Gerrardstown; Hightown; Middletown; Midlothian; Mt. Rogers; Pulaski; Radford; Richmond West; Rural Retreat; Rustburg; Stephens City; Vesuvius; Waynesboro. Completed: Amherst (cooperative); Buena Vista (cooperative); Glen Allen; Richmond 7½; Seven Pines; Studley; Yellow Tavern.

Washington. — Sketching being completed on two small areas. Completed: preliminary ground work on a few quadrangles and aerial photographs on a few others.

Wisconsin. — Completed: aerial mapping of 3,000 square miles in northeastern Wisconsin (cooperative).

GROUND WATER RESOURCES

Florida.—Ground water study of Duval and Nassau counties.

Georgia.—Ground water investigation including taking of samples, making analyses, measuring stream flow, collecting data on number of flowing wells, both wild and otherwise, just started.

Illinois.—Electrical resistivity survey of buried sand and gravel deposits in search for ground water supplies (cooperative).

Indiana.—Establishment of observation wells, and semi-monthly measurements of state's water level (cooperative); supply of ground water resources for municipal supply (cooperative).

Iowa.—Water level measurements; ground water geology; pumpage studies in municipalities (all cooperative).

Kansas. — Ground water resources of Ford County (cooperative). Completed: ground water resources of the McPherson formation (cooperative); ground water resources of southwestern Kansas.

Louisiana.—Report on the ground water resources of Rapides Parish; general survey of the state.

Maryland. — Continuous additions to well records.

Michigan.—Supervising the drilling of shallow wells, gaging water levels, mapping in contours depths to the water tables in the northern part of the state (cooperative).

Minnesota. — Water resources of northeastern Minnesota; water resources of southern Minnesota.

Mississippi. — Ground water resources of the state (cooperative).

Missouri.—State-wide studies.

Montana.—General study.

Nebraska. — Box Butte County; survey of fluctuations of water table. Scottsbluff County (field work completed).

New Jersey. — Supplying aid in search of satisfactory ground water supplies.

North Dakota.—Study of water levels in the state, 60 observation wells established (cooperative). Completed: study of water levels and pressures in the Dakota Artesian Basin (cooperative); eight city water supply surveys; one wild artesian well survey.

Ohio.—Continuous effort to obtain water well logs and other information on water conditions in the state; advice given to municipalities and property owners as to possible sources of water in their localities.

Oklahoma.—Cimarron County (cooperative); miscellaneous investigations for municipalities. Report completed: Texas County (cooperative).

Pennsylvania.—Ground waters of south-central Pennsylvania; ground waters of north-central Pennsylvania; well gaging.

South Dakota.—Ground water fluctuations in eastern South Dakota.

Virginia.—Coastal Plain investigations (cooperative).

Washington.—Continuing collection and study of well logs and analyses (cooperative).

Wyoming.—Completed: Municipal water supply of Laramie.

STREAM GAGING

Alabama.—Study in progress (cooperative).

Arkansas.—Stream measurement (cooperative).

California.—385 stream gaging stations maintained (cooperative).

Georgia.—Investigation of stream gaging and quality of water sampling and analyses (cooperative).

Iowa.—Surface water investigations (cooperative).

Louisiana.—30 stream gaging stations under construction.

Maryland.—Cooperative studies.

Michigan.—Assisting in establishing and maintaining levels of numerous inland lakes through construction of dams and embankments.

Mississippi.—Cooperative studies.

Missouri.—97 stream gages. Statewide investigation.

Oregon.—Report completed: placer mining on the Rogue River, in relation to fish and fishing in that stream.

Tennessee.—90 gaging stations (cooperative).

West Virginia.—Cooperative studies.

SOIL SURVEYS

California.—Projected surveys include: Stockton area; Newman area; Indian lands in Owens Valley, areas along the San Joaquin River between the Friant Dam in Fresno County and the Delta in San Joaquin County, the last to be completed by end of the year.

Illinois.—Geology of Illinois soils (cooperative).

Maryland.—State completely mapped.

Nebraska.—Cherry and Lancaster counties (almost completed).

West Virginia.—Completed: Greenbrier County report (cooperative).

RECLAMATION AND IRRIGATION

By John C. Page

Commissioner, U. S. Bureau of Reclamation

BUREAU OF RECLAMATION

The Bureau of Reclamation, a bureau of the Department of the Interior of the United States Government, was created by an Act of Congress, June 17, 1902, for the purpose of survey, examination, construction, and operation of works for the reclamation by irrigation of arid and semiarid lands in the Western States. It is engaged in the construction and operation of 49 irrigation projects in 15 arid and semiarid States of the far west, comprising a total irrigated area of more than 3,000,000 acres. The funds for this work have come from repayments by the water users, from oil leasing and other mineral operations, from the sale of public lands, and by allotments and direct appropriations by the Congress. The money expended is returned to the United States Treasury for deposit in the reclamation revolving fund by payments of settlers and from sales of power and water.

CONSTRUCTION PROGRAM

The construction program of the Bureau of Reclamation during the 1938 fiscal year was the largest in its history. Work was in progress on 32 projects in 12 States. During the year two major dams were begun, bringing to 13 the number of storage dams and to three the number of diversion dams now under construction. The Bureau constructed 326.2 miles of canals, 164.6 miles of drains, nine tunnels with a total length of 18,545 feet, 214.7 miles of roads, ½ mile of railroad, 365.3 miles of transmission lines, 104.7 miles of pipe, 4,250 structures, 282 bridges, 911 culverts, and 200 flumes. There were placed in dams 2,367,662 cubic yards of concrete, 2,878,571 cubic yards of earth, and 607,415 cubic yards of rock-fill, and 34,049,096 cubic yards of earth and rock were excavated. The Bureau used 4,006,594 barrels of cement.

GRAND COULEE DAM

The outstanding project under construction is the Grand Coulee Dam on the Columbia River in Washington which, upon completion, will be the most massive masonry structure in the world. The base of the dam, 250 feet high and containing 4,541,909 cubic yards of concrete, was completed on March 21, 1938. Contract was awarded in February, 1938, for the construction of the dam to its full height of 550 feet, which when completed will serve to irrigate an additional 1,200,000 acres of land in the Columbia basin area.

CENTRAL VALLEY PROJECT IN CALIFORNIA

Another major undertaking of the Bureau in progress is the Central Valley project in California, designed to regulate the flow of the Sacramento and San Joaquin Rivers. The estimated cost of the project is $170,000,000. Construction features include Shasta Dam, reservoir and power plant, 200 miles of transmission lines, the delta cross-cut canal to carry Sacramento River water to the San Joaquin River, the Contra Costa Canal, the San Joaquin pumping system, Friant Dam and reservoir of 450,000 acre-feet capacity on the San Joaquin River, the Madera Canal, and the Friant-Kern Canal. In September, 1938, construction work was begun on Shasta Dam. It will be 560 feet in height, 3,500 feet in length along the crest, and will contain a volume of 4,610,000 cubic yards of concrete, the second highest and most massive structure in the world.

BOULDER DAM

The principal work at Boulder Dam, the highest dam in the world, located on the Colorado River in Arizona and Nevada, consisted of the erection of machinery and installation of electrical fixtures. With five big generators in operation, one small unit, and two station service units, a total of 1,452,285,000 kilowatt-hours of electrical energy had been produced at Boulder Dam to June. 1938. Of this amount 1,427,928,442 kilowatt-hours were sold for a gross revenue of $1,888,132.84. Between 130,000,000 and 150,000,000 kilowatt-hours were being generated per month. Lake Mead, the reservoir created by Boulder Dam, on June 30, 1938, was over two-thirds full and was 114 miles long, containing 22,500,000 acre feet of water.

IMPERIAL DAM

The Imperial Dam, which diverts the Colorado River into the All-American Canal, was dedicated by Secretary Ickes Oct. 18, 1938. The new 80-mile All-American Canal is by far the largest irrigation ditch in the United States. The first water which was turned into the 21-mile completed section of the canal, from the intake to Pilot Knob near the Mexican line, marked the beginning of a period of seasoning the canal. Considerable structure work on the lower end of the canal remains to be done before it can be put into full use in 1940. Work has begun on the 130-mile Coachella branch canal. Ultimately this project will bring to fruitfulness approximately 1,000,000 acres of land in the Imperial and Coachella Valleys of Southern California.

FEDERAL CONSTRUCTION RECORD

Since the origin of the Bureau of Reclamation in 1902, construction results include 19,606.4 miles of canals, ditches and drains, 147 storage and diversion dams with an aggregated volume of 42,442,610 cubic yards, 47 power houses, 2,512 buildings, 75.8 miles of tunnels, 4,500.3 miles of telephone lines, 281.6 culverts, 13,448 bridges, 2,164.7 miles of road, 159½ miles of railroad, 4,277.3 miles of transmission lines, and 187,214 other irrigation structures. Reservoir capacity created by this construction has totaled 45,522,970 acre-feet. The construction cost to June 30, 1938 was $500,000,000. This work has involved the excavation of 480,225,096 cubic yards of materials, and the Bureau has used 18,817,594 barrels of cement.

RECLAMATION FUND

Accretions to the Reclamation Fund, as established by the Act of June 17, 1902, by proceeds from the sale of public lands during the fiscal year amounted to $142,676.44 and from the oil leasing act $3,353,866.82. Total accretions to the reclamation fund since 1902 have amounted to $169,463,715.57, of which $112,636,624.35 has been received from the sale of public land, $55,635,868.99 from the oil leasing act, $780,266.97 from Federal water power licenses and $410,955.26 from potassium royalties and rentals.

Under the Reclamation law, project water users are required to contract to repay without interest over a period of years the cost of construction of the project works which serve them and in instances where the project is operated by the Bureau, the water users pay annual operation and maintenance and water rental charges. After investigations by the Repayment Commission, created by the Act of Aug. 21, 1937, repayments due during the 1938 fiscal year to a total of $300,331 were postponed. Relief was granted in this manner to 10 different projects or units of projects. Construction payments during the year totaled $2,299,689; operation and maintenance collections amounted to $1,256,689.27, while water rental payments totaled $363,961.53.

IRRIGATION

Since 1902 the Bureau of Reclamation has completed 35 separate irrigation projects, 14 of which are operated and maintained by the Bureau. The operation of the other 21 has been transferred to local, legally organized irrigation districts or water users associations. These are operated in accordance with rules and regulations approved or prescribed by the Secretary and in conformity with contracts under which transfers were made. Contracts, involving operation and maintenance and other related matters, are in effect between the United States and about 100 such water users organizations.

Over 873,000 persons are living on the 51,834 farms irrigated by the Bureau and in the 254 towns and cities served by Federal projects. Of the 3,114,801 acres irrigated, 3,034.769 acres were harvested in 1937, producing crops worth $118,658.272, or an average of $39.09 per acre. From an investigation made as an index to prosperity, it was learned that bank deposits in banks on projects totaled $190,820,316.

Public land farm units on the several projects are opened for settlement from time to time as canals are extended to make irrigation water available.

Projects now being constructed by the Bureau will add approximately 2,500,000 acres to the cultivated area of the arid and semiarid States. When completed, these new projects will make available more than 31,000 farmsteads, and it is estimated opportunities will be provided for a total of 825,000 people on 41,600 farms and in cities and towns as yet unlocated.

BUREAU RECORDS

An engineering library of about 7,000 manuscripts, printed volumes and pamphlets on the subject of irrigation is maintained in the Washington office of the Bureau. This library contains descriptions of the construction and operation of the projects, with numerous photographs and maps, plans, specifications, cost data and results of original experimental investigations. The Bureau also maintains a photographic file of over 75,000 negatives of scenes on the projects from the beginning of construction through the period of settlement and development. It has available for distribution motion picture films (16 and 35 mm.) on the subjects of "Boulder Dam", "Grand Coulee Dam", and "Reclamation in the Arid West". In addition to illustrated folders and booklets, pamphlets and leaflets on the various projects, which are mailed without charge upon request, the Bureau has published a number of valuable technical and semitechnical books which may be purchased by writing to the Commissioner, Bureau of Reclamation, Washington, D. C.

PUBLIC LANDS

By Fred W. Johnson

Commissioner of the General Land Office

ORGANIZATION

The outstanding problem met by the General Land Office during the fiscal year 1938 was the readjustment of its activities to meet the primary responsibilities placed upon it by a universally recognized need for prudent conservation of the natural resources on the public domain. Through careful regrouping of personnel, and the installation of modern business practice, a greatly improved organization was maintained with which to administer the provision of law and Executive orders affecting the national conservation program.

ADMINISTRATION

With the enactment of the Taylor Grazing Act in 1934, new fields of activity were placed within the General Land Office for administration. Under that act, and in accordance with the provisions of Executive orders. all public lands were withdrawn from disposal. No allocation of any of the public domain may now be made until after scientific classification to determine the highest use to which it can be put. This policy, an integral part of the general conservation plan, has imposed upon the General Land Office a formidable problem which can only be solved through utilization of high technical skill. In addition to the problems encountered in the necessity for classification of all the public domain before it can be disposed of under applicable public lands laws, administration of mineral development upon the public domain and grazing activities in public land tracts not included in grazing districts are among the responsibilities of the General Land Office.

The regulations of the General Land Office "of general applicability and legal effect" on June 1, 1938, were codified for inclusion in the Code of Federal Regulations.

LAND CLASSIFICATIONS, ENTRIES, ETC.

The act of Aug. 28, 1937 (50 Stat. 874), provides a comprehensive land-use program for the revested Oregon and California Railroad and Coos Bay Wagon Road grant lands, in Oregon. Extensive land classifications will be required in connection with the prudent development of this area. Headquarters for this work are maintained at Portland, Ore.

On June 30, 1938, about 6,500,000 acres were embraced in unperfected entries upon which proof of compliance with the law was not due or had not been presented. In addition, there were pending applications for exchange under the Taylor Grazing Act involving approximately 2,500,000 acres of privately-owned and state school land and about the same area of public land.

Exchanges of national forest lands required the examination of abstracts of title involving 183,892 acres.

There were furnished during the year 43,078 certified and uncertified copies of entry papers, plats, field notes, patents, etc., for which there were received amounts aggregating $11,650.85. In addition, there were furnished for official use by this and other departments and agencies, 18,234 copies of such items.

Twenty-eight civil suits were recommended to cancel leases for oil and gas, coal, potash, borax and sodium, to cancel patents issued through fraud, and to recover damages for loss of property in connection with timber trespass. Judgment was asked for the amount of money due. Twenty-four cases were reported as won and two lost. As a result of the suits, judgments and compromises were reported amounting to $174,240.

There were decided on principles of equity and referred to the Board of Equitable Adjudication and confirmed 1,268 homestead entries of public lands, 55 homestead entries of revested and reconveyed lands in Oregon, 36 homestead entries of ceded Indian lands, 23 reclamation homesteads, and 60 desert-land entries.

EMERGENCY CONSERVATION WORK

The work of controlling the coal fires that for years have been destroying the irreplaceable Federally owned coal beds in the vicinity of the Little Thunder Basin, Wyoming, was continued during the fiscal year from two C. C. C. camps and two such camps were engaged on the revested Oregon and California Railroad and reconveyed Coos Bay Wagon Road lands in Oregon. During the year work was conducted on 14 different projects involving 13 separate and distinct underground coal fires and other related miscellaneous undertakings, such as construction of roads to reach the fires and fire hazard reduction work. During the fiscal year not a single lost-time accident to any enrollee occurred.

LEASES OTHER THAN MINERAL

(Outstanding June 30, 1938)

Class	Number	Acres
Term grazing leases under Taylor Grazing Act*	1,415	1,836,593
Temporary leases under Taylor Grazing Act	187	665,000
Grazing leases, Alaska	13	899,312
Fur farm leases, Alaska	32	170,260
Aviation leases	32	14,692
Leases for mineral and medicinal springs	1	40
Leases for water wells	2	80
Total	1,682	3,585,977

* In addition, there were outstanding on June 30, 1938, 1,123 offers of term grazing leases covering 2,130,533 acres.

PUBLIC LANDS

MINERAL LEASES, PERMITS AND LICENSES

(Outstanding June 30, 1938)

Class	Leases		Permits		Licenses	
	No.	Acres	No.	Acres	No.	Acres
Oil and gas	1,070	451,821	7,370	11,221,621	...	...
O. & G., Act 8/21/35	168	184,008	...	...	...	...
Coal	374	71,688	160	126,926	92	3,599
Potash	10	25,505	23	54,696	...	...
Phosphate	7	3,352	...	...	...	...
Sodium	2	801	47	65,586	...	...
Sulphur	...	...	27	17,508	...	...
Total	1,631	737,175	7,627	11,486,337	92	3,599

ORIGINAL ENTRIES

	Public Land		Indian Land	
	Number	Acres	Number	Acres
Homesteads:				
Stockraising	101	41,383	5	1,695
Enlarged	19	4,239	1	268
Reclamation	158	15,056	4	700
Forest	6	611	...	...
Section 2289, et al	163	17,172	7	786
Total homesteads	447	78,461	17	3,449
Deserts	4	696	...	...
State selections	5	2,646	...	...
Railroad selections	3	546	...	...
Applications and filings	183	...	...	...
Miscellaneous	84	45,145	6	...
Total	726	127,494	23	3,449
Indian land as above	23	3,449	...	...
Grand Total	749	130,943	...	...

FINAL ENTRIES

	Public Land		Indian Land	
	Number	Acres	Number	Acres
Homesteads:				
Stockraising	2,497	1,174,702	93	40,025
Enlarged	265	72,167	35	6,274
Reclamation	188	18,716	31	2,884
Forest	29	2,945	...	...
Commuted	12	823	19	1,652
Section 2289 et al	961	93,413	40	3,797
Total Homesteads	3,952	1,362,766	218	54,632
Deserts	102	12,125	5	759
Public auction	147	15,452	1	40
Timber and stone	2	120	...	...
Mineral	134	10,586	2	499
Miscellaneous	368	21,005	40	200
Total	4,705	1,422,054	266	56,130
Indian land as above	266	56,130	...	...
Grand Total	4,971	1,478,184	...	...

PATENTS AND CERTIFICATES

	Number	Acres
Homesteads:		
Stockraising	2,670	1,328,072
Enlarged	356	91,367
Reclamation	245	23,371
Forest	52	5,074
Section 2289, et al.	1,057	105,188
Total homesteads	4,380	1,553,072
Deserts	113	14,356
Public auction	98	9,866
Timber and stone	2	89
Mineral	53	2,839
Railroad	7	2,957
Special acts	994	819,342*
Miscellaneous	1,168	84,926
Total patents	6,815	2,487,447
Certified to States	—	137,425
Grand Total	6,815	2,624,872

* Includes 672,650 acres of school section land, patented to the State of Iowa under the act of June 21, 1934 (48 Stat. 1185).

CADASTRAL ENGINEERING SERVICE

The Cadastral Engineering Service of the General Land Office is charged with the execution of cadastral surveys and resurveys of the public lands of the Continental United States and Alaska, the supervision of mineral surveys for patent, and the preparation of the technical and legal records of the work performed.

During the year field projects were executed in 21 States and the Territory of Alaska under 208 separate groups, 106 of which in 17 States were of resurveys. In these areas 34,480 linear miles, embracing 5,985,310 acres, were surveyed and resurveyed, exclusive of engineering investigations and many types of miscellaneous and special projects not measurable on a quantity basis.

Office work in all branches was maintained on a current basis. There were constructed 282 townships base plats, 127 color overlay sheets, 127 supplemental plats, and field notes were prepared in final form for the permanent record for all surveys relating thereto. In addition, 172 mineral surveys, embracing 521 locations, were examined, platted, and approved.

There were accepted and placed on file plats representing 2,385,337 acres of original surveys of public lands, and in addition 1,801,883 acres of lands resurveyed, comprising an aggregate area of 4,187,220 acres.

The wall map of the United States has been revised to show changes since the publication of the 1936 edition, and preliminary action has been taken for the printing of the 1938 edition. There have been prepared 211 miscellaneous maps, plats, diagrams, and tracings.

There were sold 7,937 photolithographic copies of township plats, for which $3,968.50 was received; and 9,972 copies were furnished to other bureaus for official use. There were 932 maps mounted and distributed for official use, and appropriate distribution was made of 6,855 map publications and 91,580 circulars.

RECEIPTS AND EXPENDITURES

The total cash receipts from sales, leases, and other disposals of public lands (including receipts from copies of records, sales of government property, etc.) were $8,393,511.69, and from sales of Indian lands $53,863.28, an aggregate of $8,447,374.97, all of which was deposited in the Treasury. The total expenditures from appropriations made for the conduct of the Office was $1,821,681.00. The excess of receipts over expenditures was $6,625,693.97. The receipts were the largest in any year since 1927, exceeding the previous year's receipts by $1,047,535.03.

Receipts from bonuses, royalties, and rentals under laws providing for the mineral leasing rights on the public domain (including royalties and rentals on potash deposits and royalties on coal leases in Alaska) aggregated $6,675,973.26 of which $6,527,113.62 was received under the act of Feb. 25, 1920 (41 Stat. 437). The largest receipts under this act were from lands in California, the amount being $3,422,595.68. Wyoming was second with $1,679,357.71. Receipts from other States follow: New Mexico, $804,739.70; Louisiana, $247,807.30; Colorado, $122,456.83; Utah, $121,980.25; Montana, $95,703.99; North Dakota, $25,051.47; Alabama, $5,113; Idaho, $1,674.38; South Dakota, $451.31; Nevada, $160; and Mississippi, $22. Under the provisions of the mineral leasing act cited, each State receives 37½ per cent of the receipts thereunder from the public lands within its borders, the reclamation fund receives 52½ per cent, and the other 10 per cent remains in the Treasury of the United States as miscellaneous receipts.

RECEIPTS UNDER THE TAYLOR GRAZING ACT

	Fees on Licenses from Grazing Districts		Fees and Rentals Under Section 15	State Totals
	District	Amount		
Arizona	1	$20,989.33		
	2	3,993.38		
	4	13,392.55		
		$38,375.26	$9,874.32	$48,249.58
California	1	$ 7,610.82		
	2	17,216.36		
		$24,827.18	$ 718.95	$25,546.13
Colorado	1	$18,679.82		
	2	4,927.62		
	3	12,771.06		
	4	7,249.62		
	6	5,128.51		
		$48,756.63	$2,623.38	$51,380.01
Idaho	1	$26,195.40		
	2	27,326.42		
	3	15,733.37		
	4	9,324.01		
		$78,579.20	$1,509.68	$80,088.88
Montana	1	$ 2,862.40		
	2	3,178.89		
	3	2,177.40		
	4	1,048.05		
	5	3,314.75		
		$12,581.49	$3,066.12	$15,647.61
Nevada	1	$40,549.82		
	2	28,730.25		
	3	14,056.51		
	4	24,474.59		
	5	1,386.32		
		$109,197.49	...	$109,197.49
New Mexico	2	$34,635.85		
	3	31,938.26		
	4	28,354.45		
	5	10,077.33		
	6	64,892.82		
		$169,898.71	$1,069.82	$170,968.53
Oregon	1	$ 1,137.97		
	2	15,497.15		
	3	12,900.31		
	4	5,814.01		
	5	4,227.03		
	6	2,946.73		
	7	889.87		
		$43,413.07	$1,151.72	$44,564.79
South Dakota		...	$ 20.00	$ 20.00

RECEIPTS UNDER THE TAYLOR GRAZING ACT—*Continued*

	Fees on Licenses from Grazing Districts		Fees and Rentals Under Section 15	State Totals
	District	Amount		
Utah	1	$ 8,407.49		
	2	28,062.34		
	3	34,939.81		
	4	15,052.32		
	5	20,412.90		
	6	23,298.95		
	7	18,820.65		
	8	15,697.27		
		$164,691.73	...	$164,691.73
Washington		...	$ 920.21	$ 920.21
Wyoming	1	$20,857.91		
	2	24,561.57		
	3	33,075.64		
	4	38,738.58		
	5	9,944.58		
		$127,178.28	$26,977.87	$154,156.15
Grand Total		$817,499.04	$47,932.07	$865,431.11

DISTRIBUTION OF RECEIPTS

	Distribution in the Treasury				
	General Fund	Reclamation and Range Improvement	State and County Funds	Indian Trust Funds	Total
Sale of public lands	$29,419.44	$64,914.59	$3,740.41	...	$98,074.44
Fees and commissions	14,234.98	67,742.95	...	...	81,977.93
Receipts from mineral leases	679,003.69	3,426,734.65	2,447,667.61	...	6,553,405.95
Receipts from Oregon and California railroad grant lands	41,237.86	...	463,531.35	...	504,769.21
Receipts from Coos Bay wagon road grant lands	82,475.00	...	27,419.39	...	109,894.39
Receipts under Taylor Grazing Act	205,101.13	216,357.78	421,458.92	$22,513.28	865,431.11
Potash royalties and rentals	10,444.01	67,226.58	39,165.03	...	116,835.62
Copying fees	18,070.05	...	...	...	18,070.05
Power permits	16,429.45	...	...	...	16,429.45
Reclamation town lots	...	5,688.75	...	...	5,688.75
Sales and leases of Indian lands	...	...	8,510.99	45,352.29	53,863.28
Miscellaneous (including sales of standing timber, coal leases and town lots in Alaska, rent of land, etc.)	22,934.79	...	...	...	22,934.79
Total	$1,119,350.40	$3,848,665.30	$3,411,493.70	$67,865.57	$8,447,374.97

During the fiscal year 6,815 patents were issued for 2,624,872 acres. Minerals in some form were reserved in about 64% of the area patented.

PUBLIC UTILITIES

By John Bauer

Director, American Public Utilities Bureau

Significant public utility developments in 1938 appeared mostly in the realm of Federal legislation and policies. While there were also important state activities, the matters of primary interest have centered in the Federal domain and will be presented with reference to the principal Federal departments entrusted with public utility responsibilities.

TENNESSEE VALLEY AUTHORITY

The Tennessee Valley Authority has occupied the central stage in Federal public utility affairs, at least as to dramatic public appeal. First, it produced a break within the administrative directorate; second, it has been subjected to a Congressional investigation; third, it has been concerned with basic litigation; and fourth, it made distinct progress in developing and carrying out an electric power program.

That there was disharmony in the TVA directorate had come to public attention at least two years ago, but it reached a climax in 1938 when the chairman, Dr. Arthur E. Morgan, publicly charged his associates essentially with dishonesty in official dealings. This charge came to the attention of the President, who then conducted an executive investigation for the purpose of determining the faults, if any, that had developed within the directorate. Dr. Morgan was asked to substantiate his charges but refused to furnish any information on grounds of improper inquiry. After repeated refusal to answer questions, Dr. Morgan was removed from office by the President, but he has instituted suit to retain his position on grounds of illegal removal. Meanwhile, the directorate remained unfilled, but the President appointed former Senator James P. Pope of Idaho, director, who was confirmed by the Senate Jan. 12, 1939.

Partly as the result of the flare-up in the directorate, a Congressional investigation of TVA was instituted and has been conducted by a committee consisting of six Senators and six members of the House of Representatives, with Senator Donahey of Ohio as chairman, Representative James M. Mead of New York as vice chairman, and Francis Biddle as counsel. The committee received testimony and made factual inquiry not only as to the disputes in the directorate, but also as to the policies, conflicts with privately owned utilities, efficiency of administration and compliance with TVA legislation. The committee reported to Congress in January, 1939, and is seeking continuation to complete its inquiry and report.

As to matters of policy, there has been the basic question whether TVA has proceeded with electric power development as the principal function or whether this has been incidental to flood control and other recognized constitutional purposes. Presumably a direct hydro-electric development and the marketing of electricity would be beyond the constitutional powers of the Government, but such activities might be carried on as supplementary and incidental to the exercise of powers granted directly to the Government by the Constitution. With respect to electric power, there has been also the questions whether (a) the capital and operating costs have been properly accounted for, (b) whether they have been properly allocated among the multiple purposes of the undertaking, (c) whether the rate schedules have been reasonably devised, and (d) whether the dealings with private companies and municipalities have been justified within the legal duties and powers of the directors.

The findings of the committee should dispose of the rumors and criticisms that have been commonly circulated regarding the TVA. That there were differences of view as to proper policy is, of course, understandable, and, according to indications of press reports regarding the committee's proceedings, the dissentions have been entirely matters of policies, points of view, and personalities. The implied charges of dishonesty and malfeasance are of grave public concern, and doubtless will be disposed of according to ascertained facts. The policies, objectives, attainments and controversies should be presented to the public without rancor or favor. The public is entitled to the facts regarding the most important governmental undertaking in the realm of national development.

Apart from the Congressional investigation, the basic power of TVA with respect to electric development and sale of the product was challenged through litigation brought by a group of companies which contended that electric power has been the direct and primary purpose and is therefore an unconstitutional activity. The TVA was sustained in the Federal court, and the matter has been appealed to the Supreme Court of the United States, which will finally dispose of any legal doubt as to the validity of TVA electric power development, generation and sale.

Notwithstanding litigation and investigation, TVA has continued with its work and has advanced its policies, especially in its relation to the private utility companies and muncipalities. While controversies as to its proper activities and relations to private companies will doubtless continue for considerable time, there has been substantial progress in clearing up disputes. In important instances the privately owned properties have been sold to municipalities or to the TVA itself. A report to the Congressional investigating committee states that the aggregate purchases have been about $11,500,000 of which TVA acquired about $3,000,000 and the municipalities the rest. This probably indicates the trend of settlement between TVA and the private companies within present competitive territory. The entire region is likely to become converted into publicly owned and operated properties. In such organization, the generating and main transmission lines will doubtless be owned and operated by TVA, supplementary generating stations and transmission lines by the States, and local distribution properties by the municipalities.

PUBLIC WORKS ADMINISTRATION

On Jan. 3, 1938 the Supreme Court validated the loans made by the Public Works Administration to municipalities for local electric plant development. The legal validity of the grants had been contested by a group of companies which claimed that the municipalities did not have the legal right to enter into competitive power developments, and that PWA did not have the right to extend loans to the municipalities. The Supreme Court upheld the right of the municipalities to compete with the private companies, and so declared the latter without legal power to bring the suits. It thus did not pass directly upon the power of PWA to make the loans, and yet practically stopped any effective legal test of that power.

This decision released extensive grants and loans for 61 projects which had been held back by injunctions. The aggregate allotment to these projects, grants, and loans amounted to $99,637,952. Up to June 1, 1938, the total allotments to all such electric projects, 274 in number, reached $144,324,483. In addition, the applicants were expected to provide $73,895,871, bringing the total estimated construction cost up to $218,220,354. Of this amount, about 85% involved construction of new publicly owned electric systems.

In addition to the funds released from injunctive restraint and the total allotments made up to June 1, 1938, further loans were provided for by the new "pump priming" program adopted by Congress in June, 1938. Under this legislation, large sums have been made available for municipal public utility developments. The allotments, however, have been subjected to a modification of policy.

Before any municipality may receive a Federal grant or loan for construction which would come in competition with a private company, it must first offer a reasonable purchase price for the privately owned properties to avoid competition and undue capital duplication. If, however, the purchase can not be reasonably effected, an allotment may be made for competitive construction. The earlier PWA loans and grants were not subjected to such restrictions in dealing with competitive conditions. While PWA itself is the judge of the reasonableness, it has sought to protect existing investments fairly against the wastes of duplication and competition in an industry which is essentially a natural monopoly.

SECURITIES AND EXCHANGE COMMISSION

In May, 1938 the Supreme Court upheld the power of the Securities and Exchange Commission to require public utility holding company systems to register within the provisions of the Public Utility Holding Company Act of 1935. This power had been contested as unconstitutional by the Electric Bond and Share Company.

After the decision the various holding company systems proceeded to file their resignations. In some instances, however, readjustments have been made to avoid the SEC jurisdiction. For example, the Harrison Williams' interests have been reported as disposing of their stock in the American Company below 10% so as to escape the requirements of registration. Stone and Webster has divorced itself from the control of its former subsidiaries. Some systems have eleminated minor property or stock holdings so as to come wholly within intrastate ownership and operation.

Apart from formal registration, SEC has proceeded with factual studies of the holding company systems and with preparation to carry out the responsibility with respect to corporate simplification and territorial integration as required by the Public Utility Holding Company Act. The Commission has requested the various systems to prepare and present their own proposals as to corporate modification and territorial integration to conform with the requirements of law, and there has been almost general compliance with the request. Near the close of 1938 the Commission announced that 67 systems had filed voluntary plans of readjustment.

The vital task before the Commission is the attainment of corporate simplification and integration. If these purposes can be properly attained through voluntary action, with informal proceedings and agreements, an invaluable accomplishment will have been achieved. If reasonable readjustments can not be reached along voluntary lines, the Commission has formal recourse to mandatory orders. It is likely, however, to proceed cautiously in exercising such powers whose constitutionality would doubtless be called in question. There is practical certainty that somewhere in the course of mandatory proceedings, the Commission's power would be contested and carried to the Supreme Court for constitutional determination. Meanwhile, progress depends primarily upon what may be achieved through skillful negotiation. The Commission has assembled a special legal and technical staff for the purposes of bringing about the corporate simplification and territorial integration contemplated by law.

In carrying out the provisions of the law, the Commission itself will be practically compelled to determine largely the standards to be applied. As to corporate simplification, the law requires elimination of all steps above two in any holding company tier, but it furnishes no clear guide as to the incidental phases of adjustment, particularly as to approval of capitalization. From the standpoint of public interest, the capitalization as authorized should not exceed the underlying fair value of the properties as determined for rate-making purposes. If higher levels of capitalization are embodied in the revised corporate structures, they will obstruct subsequent rate control by the States and will subject the holders of the junior securities to lower returns and real values than they might normally expect. Under proper readjustment, the approved capitalization should correspond with the fair value of the properties which would be duly supported by rates fixed under standards of state regulation, for practically all the properties will be subject to state rate control.

With respect to territorial integration, the law fixes no clear standard, and the scope of integration in each instance is left for determination by the Commission. No objective policy has been announced. Since subsequent regulation will be primarily by States, the basic unit of integration might properly be fixed by state areas. These would make available in almost all instances the maximum economies of integration, and would greatly facilitate state regulation thereafter. Where, however, two or more States would furnish a desirable region of comprehensive integration, they would properly be included in a single system, and yet leave the technical and financial framework for separate state control.

For every State there should be a single private company owning and operating the electric properties, and its capitalization should not exceed the fair value of the properties for rate-making purposes. This is the rather obvious ideal toward which the Commission will doubtless strive, but there will be many obstacles against reasonable attainment.

FEDERAL POWER COMMISSION

A distinct development in Federal dealings with utilities was the creation of control over the natural gas industry. Heretofore, interstate pipe lines and movements of natural gas have been free from public control. No Federal jurisdiction had been established, and state legislation and commissions were without power to deal effectively with the movements and rates of the interstate natural gas business.

During 1938 a comprehensive Federal statute was enacted and put into effect, placing jurisdiction over interstate natural gas with the Federal Power Commission. Under the new act, the Commission has power to prescribe uniform accounts, require financial and operating reports, approve interstate extension of properties and export of gas, and especially to fix rates for gas delivered through interstate transmission systems.

Since the actual delivery and use of natural gas depends upon local distribution facilities, the ultimate fixing of consumer rates devolves upon state regulatory bodies. These, however, have heretofore been largely blocked in their efforts to fix reasonable rates for their lack of jurisdiction over the gas delivered through interstate facilities. This gap has now been closed by Federal legislation which makes particular provisions for cooperation with state commissions and municipalities in investigations for rate-making and other purposes. During 1938, several inquiries were initiated, mostly upon petitions by municipalities and state commissions, to determine reasonable rates for interstate transmitted natural gas. And the Commission has issued comprehensive orders of accounting and furnishing the factual data necessary for proper regulation. Its function over natural gas will be essentially the same as it has been with respect to interstate electric power.

FEDERAL COMMUNICATIONS COMMISSION

The year has witnessed considerable aftermath of the comprehensive telephone investigation made earlier by the Federal Communications Commission. Besides a large number of individual reports on the various corporate, technical and financial phases of the telephone industry, Commissioner Paul Walker, in charge of the investigation, made a summary report to the Commission. This report was submitted also to Congress, though it has not received the specific approval of the Commission. Its standing has been purely tentative.

The report has been subjected to extensive public discussion. The American Telephone and Telegraph Company, which is primarily concerned, has filed formal criticisms, bringing out alleged errors and particularly objecting to the fact that cross-examination was not allowed of the Commission witnesses or of the reports made by Commission investigators. The crux of the report was the conclusion that a general 25% reduction in telephone rates was justified. Substantial reductions have been made in interstate rates since the investigation started.

There had been criticism of the FCC, also considerable internal disagreement as to policy. To bring about harmony and proper direction, Frank R. McNinch, former chairman of the Federal Power Commission, was made Chairman of FCC. Among the matters of controversy are the policies with regard to radio broadcasting. An investigation of the industry by the Commission appears imminent, and perhaps of the Commission by Congress.

STATE ACTIVITIES

With the domains of the state commissions, action has been concerned extensively with obtaining rate reductions, especially electric and telephone. The trend in rates has continued downward. Mostly, the commissions have proceeded informally through negotiations with the private companies, obtaining rate reductions and revisions through agreement rather than mandatory orders. The following instances are among the more important rate reductions during the year:

Central Arizona Light and Power Co.	$200,000	electric rates
Arkansas Power and Light Co.	272,000	" "
Tennessee Commission	500,000	telephone rates
Duke Power Company, North Carolina	838,000	electric rates
Duke Power Company, South Carolina	300,000	" "
City Council, Dallas, Texas	350,000	" "
Virginia Commission	1,000,000	utility rates
Pennsylvania Commission	600,000	intra-state telephone toll rates
Louisville, Ky. Gas and Electric Co.	350,000	electric rates
Kansas City, Mo. Power and Light Co.	1,000,000	" "
Staten Island, N. Y. Edison Corp.	500,000	" "
Northern States Power Co.	1,400,000	" "

WATER SUPPLY

By Robert Spurr Weston

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GRANTS, LOANS AND COSTS

The allotments by the Public Works Administration for water supply systems to Nov. 1, 1938 amounted to $170,487,003, of which $115,010,616 consisted of grants to applicants and the remainder of loans to the same. To the funds supplied by the applicant should be added loans amounting to $55,476,387. For number and estimated costs of various works see table opposite.

The minimal cost of public waterworks, including that of 1938, as reported by the *Engineering News-Record,* was $1,991,175,000. This may be compared with $1,321,757,000 in 1937. Both estimates include the smaller expenditures by the Federal Government.

Works	Number	Cost	Funds Supplied by Applicant
Water mains	250	$31,137,003	$15,378,242
Purification plants	120	19,085,142	11,239,465
Reservoirs	182	28,422,981	10,733,297
Complete waterworks	1855	233,368,271	104,175,390
	2407	$312,013,397	$141,526,394

The construction of waterworks has been speeded because of the P.W.A. and W.P.A. The incentives have been the payment of 45% of the cost by the Federal Treasury, the record lowness of interest on the remaining 55%, the absence of taxes on the interest of bonds issued by public agencies, the stimulation of activity and the giving of employment to residents of municipalities benefited by the new works.

While Federal aid has been given to many large works, most of the plants constructed are for places of less than 20,000 population. Here, even more skill is required for design than in the case of larger plants. In the smaller plants, constant attendance is often prohibitive and automatic control is demanded.

CONSTRUCTION FOR SOUTHERN CALIFORNIA

The stupendous Colorado River aqueduct, which will bring over 1,000,000,000 gallons of water a day to the thirsty Metropolitan District of Southern California, will be completed shortly and on time, in spite of extremely adverse conditions met in the wet San Jacinto tunnel, in crossing the desert, and elsewhere. About 420 miles long and costing over $200,000,000, it will take water from the Parker Dam on the Colorado River, lift it 1,600 feet in several steps by highly efficient pumps of improved design, and cross the desert to supplement the supply of a population of 3,000,000 and also provide irrigation water for 1,400,000 acres of arable land.

In carrying on this work, the many engineering, construction and human problems have been solved in an admirable way. New methods have reduced costs and added to engineering knowledge. Furthermore, the job reached its peak of construction activity when the need for employment was greatest.

Because the Colorado River carries much clay and silt, and because the reservoir at Parker Dam and those along the aqueduct line will not clarify the water, the District has recently started to prepare plans for softening and filtration; otherwise, the 13 cities involved would be supplied with raw water.

Los Angeles is seeking a Federal grant of $4,500,000 to complete the Mono Basin project which begins 350 miles north of the city. This grant will not cover the Mono Craters Tunnel, the principal feature of the project, which is nearly completed after difficult and hazardous construction. The $10,000,000 yet to be spent does not cover major improvements to the distribution system and to the existing Los Angeles aqueduct. These will include an aqueduct for distributing the water to the 13 towns of the district and to three elevations of distribution.

SALT LAKE CITY AND COLORADO SPRINGS

For the Metropolitan Water District of Salt Lake City, the U.S. Reclamation Bureau is building a 50,000,000,000-gallon storage reservoir on the Provo River, and a 40-mile conduit skirting the foothills of the Wasatch mountains between the reservoir and Salt Lake City. It is expected that this, with future additions, will meet the water supply and irrigation needs until 1980, at an estimated annual cost of $223,000.

The growing city of Colorado Springs has provided for its water supply for years to come by building two great reservoirs, storing about 2,000,000,000 gallons and costing, with a 10-mile connecting aqueduct, about $1,721,000.

BOSTON

The dam of the new Quabbin Reservoir for the Boston Metropolitan District will be completed in 1939. Remaining work includes clearing the reservoir site and the construction of two low-flow regulating dams. A new aqueduct, 18.5 miles long and costing about $11,000,000, will be built to take the water from the present Wachusett Reservoir and, by-passing the Sudbury Works with their inferior water, deliver it under higher pressure than formerly. The Sudbury Works, begun over 65 years ago, will be held in reserve.

NEW YORK

The new Delaware water supply system for New York is developing rapidly. Contracts for approximately 54 of the 85 miles of the Delaware aqueduct between the Hill View Reservoir near the city line and the first reservoir on Rondout Creek, amounting to about $113,000,000, have been awarded, and payments aggregating about $13,500,000 have been made. Contracts for the remainder of this aqueduct, for the main dam on Rondout Creek and for portions of the highways about the Rondout Reservoir will be let early in 1939.

The first stage of construction, providing 170,000,000 gallons daily from Rondout Creek and Neversing River, was estimated to cost about $210,000,000. The second stage of construction, comprising the development of the East Branch of the Delaware River, from which an additional supply of 370,000,000 gallons daily will be obtained, was estimated to cost about $63,000,000 more, a total at the end of the second stage of approximately $273,000,000.

The New York World's Fair grounds, which will become part of the city after the exhibition, will require enough water for a city of 800,000. At least 400,000 gallons daily will be required for display in fountains, and for other special uses. There are similar requirements for the Golden Gate International Exposition at San Francisco.

PURIFICATION PLANTS

Space does not allow the citation of the names of all places which, largely because of the opportunity to use P.W.A. or W.P.A. funds, have constructed water purification plants. The many plants designed have followed in general the practice of previous years, although considerable progress in the treatment of water and in the arrangement of plants has been made.

While construction of water filters has usually been in the form of rectangular concrete units, the so-called Morse design, in which the plant unit is made up of annular divisions in a circular structure of steel, first exemplified at Burnt Mills, Md., has been repeated in other places and most recently at Bristol, Conn. These plants are compact and cost less than those of concrete but have some offsetting disabilities which experience will doubtless value.

Largest of the new works is the South Side purification plant at Chicago, the first step in the purification of the whole city's supply. Many are being built in which water softening and purification are combined. Good examples of this are the plants at Fort Myers, Fla., Minneapolis, Minn., Flint, Grand Rapids and Muskegon, Mich., and Toledo, O. Many deferrization plants have been built for the removal of iron, among these one of novel design at Jamaica, L.I.

At Springfield, Ill., Spaulding has developed a device called a "precipitator," in which the chalk-like sludge produced in the softening process is brought in contact with the water previously treated with chemicals and stirred. The treated water passes upwards through a zone of suspended sludge thereby effecting a higher degree of removal of hardening constituents. This has been incorporated in the new Minneapolis plant.

Zeolite softeners are coming into increasing use, and a new type of exchange material, known as "Zeo-Carb," has been introduced which removes acid ions like chlorides and carbonates from water, something not achieved before in practice except by distillation.

The treatment of many waters has been greatly improved by the addition of small amounts of sodium silicate, or colloidal clay, in combination with the usual coagulants, the combinations effecting a higher degree of purification at a lower cost.

The second stage of construction is being reached in many places. The water purification plant at Cincinnati built in 1907 has been completely remodeled at a cost of $3,250,000. The water pumped from the Ohio River and settled in large basins, as in the past, is partially softened, filtered and disinfected. The arrangements for handling chemicals for chemical treatment, removing sludge from basins, and plant control are unusually complete. A new water purification plant, with a daily capacity of 15,000,000 gallons, at Augusta, Ga. has replaced one built in 1928. Toledo is to take its supply from a new intake in Lake Erie, abandoning the Maumee River as its source of supply. A large addition is being made at Indianapolis.

In the design of the plants, more and more attention is being given to the esthetic and architectural character of works. Modern designers are ornamenting construction, but not constructing ornamentation, and, while utility is still the basis of design, many of the recently constructed plants, like those at Fort Wayne, Ind., and the new plant of the St. Louis County Water Company, are beautiful, and they house efficient plants.

POLLUTION CONTROL

The last Congress authorized the compact of the Ohio River Valley Sanitary Commission, negotiated by eight States. Flood control thereunder is in the hands of the War Department. Because of the lack of sanitary engineers in this department, the sanitary engineering work has been placed in the hands of the Public Health Service. Four States have ratified the Delaware River Basin compact and thereunder have established standards of quality to be met in sections of the Delaware and its tributaries.

The Barkley-Vinson Bill for the Federal control of stream pollution, while passed by the last session of Congress, was not signed by the President, but the consideration of either it or its successor in the new session is most probable. Action may result in entire Federal control, the authorization of interstate pacts, or the formation of water control districts delimited by watersheds.

While conditions in many rivers cry for relief, only reasonably stringent laws would be helpful because waters must be used, although not abused, if urban population is to exist.

SANITATION

The supplying of high buildings and the possibility of pollution by siphonage through cross-connections is receiving much attention, particularly house connections between water piping on the one hand and laboratories, water closets, baths, sinks and tubs on the other. Especially is care necessary in hospitals with their sterilizers and special fixtures. The drinking fountain is also dangerous unless of approved design. In fact, sanitary hazards exist in the vast majority of buildings, and correction is needed.

In the past, most of the water-borne epidemics were due to typhoid fever, but because of water purification, disinfection with chlorine, and immunization of individuals, this has practically ceased to be an urban disease. However, water-borne epidemics of gastro-enteritis occasionally do occur in spite of chlorination. An example of this was the one at Vinton, Ia. which affected a large percentage of the population and was due to a cross-connection with a polluted source.

THE HURRICANE DAMAGE

The hurricane which devastated the New England coast Sept. 21 spent its fury on the Connecticut Valley and caused unprecedented damage to water supplies. Coincident in western Massachusetts were record rainfalls, one station on the Ware River recording 17 inches in the five-day period, Sept. 17–21.

While broken dams and dikes, flooded waterworks, over-turned standpipes and broken mains were responsible for serious damage, most failures were due to loss of electric power. This not only affected pumps but also devices for treating and sterilizing water.

Efficient sanitary engineers, notably those of the departments of health, with the cooperation of makers of equipment, installed emergency chlorinators where needed. Notices to boil water were issued when necessary, and the managers of works were ingenious and heroic in overcoming many handicaps.

According to the theory of probabilities, a hurricane and flood like that of 1938 may not occur for 123 years. Nevertheless, works should be strengthened against a recurrence. Nearly as devastating floods occurred in 1927 and 1936. Dams should be safer and spillways more ample. Alternate sources are valuable. Auxiliary power from internal combustion and steam engines is a necessity. Better designed distribution systems and reservoirs would better control leakage due to breaks. Works should be above the maximal flood level or be protected by dikes and waterproofing, and adequate chlorinating equipment is imperative. These are what the hurricane has shown to be necessary for continuous and safe service.

FLOODS

Following the flood of 1937 in the Ohio Valley, the crest of which was as much as ten feet above any observed during a period of 175 years, a number of cities took definite steps to prevent a shortage of water supply should a similar flood occur again. At Evansville, Ind., the pumping station and water purification plant were surrounded with a dike whose crest is five feet above the elevation of the peak of the 1937 flood. At Louisville, new vertical pumps in a water-tight chamber with motors above the flood level were provided, while protective construction was carried on at Cincinnati and other Ohio River towns, as well as at certain towns, like Quincy, Ill., in other river valleys.

During the Ohio River floods, relative freedom from typhoid was experienced through the combined efforts of the U.S. Public Health Service and the cities and towns affected. Wide-spread warnings to boil all drinking water was the most effective single measure where supplies failed and mains became infected as by leakage or back-siphoning through toilet and other plumbing fixtures. Heavy chlorination was depended upon. Immunization, while valuable and instituted rapidly, afforded little or no protection to those exposed near the onset of the flood. When operation was resumed, the refilled mains were disinfected with chlorine.

FLUORIDES AND MOTTLED TEETH

Chronic endemic dental fluorosis (mottled teeth) and general fluorine poisoning are receiving increasing attention. The cause is fluorine in drinking water. As little as one milligram of fluorine per liter of water (one part per million) causes some trouble, while a marked effect follows the presence of more than two milligrams. When more than five milligrams per liter are present, few, if any, children escape the disfiguring disease.

While some waters containing fluoride-bearing waters are found along the Eastern Coast and in the Middle West, most are found in Ohio, the Dakotas, Colorado, Arizona and Texas.

The practical methods for removing fluorine from waters are fortunately leaving the experimental stage. Treatment with magnesium-oxide or magnesite seems to be effective in reducing the fluorine below a tolerable limit.

Magnesium-hydroxide and tricalcium-phosfate, the latter marketed under the name of "defluorite," may be regenerated either with sodium-hydroxide and hydrochloric acid, or the former and carbonic-acid. The latter method has the advantage of being easily handled with practically no loss of material. This method is to be used at Amarillo, Tex., Bloomdale, O., and elsewhere.

AIR CONDITIONING

Water for air conditioning, including humidifying, air pre-cooling and condenser cooling, has increased consumption and caused alarm. In the Loop District of Chicago, where the mains were not too adequate, pressures were greatly lowered during the summer when air conditioning was at its height. While some increase in consumption must occur, the use of water-conserving devices, like cooling towers and evaporator condensers, should keep the increase below one per cent. This modification should not militate against the rapid spread of air conditioning.

ESTHETIC CONSIDERATIONS

No longer are consumers satisfied with a water which is safe only.

They demand an agreeable water which is clear, colorless, odorless, tasteless, low in hardness, mineral matter, iron and manganese, and relatively non-corrosive.

There is some appreciation in the public mind of the few that the annual national saving due to safe water is about $400,000,000, but few appreciate the saving and increased safety which would follow the dis-use of bottled water, more general water softening and treatment to reduce corrosion of water piping and plumbing fixtures.

As it is realized that the modern esthetic demand often has economic support, more agreeable, softer and less corrosive supplies will follow.

One evidence of the trend is that there are in the United States about 375 municipal softening plants, serving about 7,000,000 people. Some of these, however, were constructed for sanitary as well as for esthetic considerations.

STREET AND HIGHWAY TRAFFIC

By Ernest P. Goodrich

Consulting Engineer, New York

GENERAL

In spite of the fact that 1938 was a year of marked business recession in many directions, the volume of street and highway traffic was immaterially less than for 1937. In its November issue, *Automotive Industries,* after securing data from all of the State Registration Bureaus, estimated the total for 1938 at 29,534,353 motor vehicles. This was a decrease from 1937 of 0.6 of 1 per cent. In December the Automobile Manufacturers Association estimated that the total gasoline consumption by motor vehicles for the year 1938 would be 19,200,000,000 gallons, 18,000,000 gallons below 1937. A short term increase in motor vehicle travel was indicated by the jump which took place in Federal gasoline tax receipts in May, to $16,287,000, compared with $11,980,000 in May of 1937. This increase was over 35 per cent and the figure was an all-time record.

During the first nine months of 1938 the number of motor vehicle fatalities throughout the country was only 22,130 which was a reduction of 21 per cent below the 1937 figure of 27,950. In this same period city deaths dropped 23 per cent.

ACCIDENT PREVENTION ACTIVITIES

Widespread efforts to prevent traffic accidents resulted in a marked improvement over the year 1937, the mortality rate for automobile accidents for the first half of 1938 being 20 per cent less than for 1937 which established an all-time high of 39,700 deaths. For 10 successive months from November, 1937 to August, 1938 the decline amounted to 5,860 deaths which is a reduction of 25 per cent. This improvement was distributed through 38 of the 43 States which reported to the National Safety Council. On the mileage basis the reduced mortality rate is estimated at 20 per cent. However, in spite of all efforts, the total loss of lives in traffic in 1938 is estimated at about 31,000.

A paper presented at the annual meeting of the Highway Research Board on Speed Regulation on Rural Highways stated that "speed is still the great highway killer." "Evidence! About Your Fatal Streets" was the title of a booklet giving statistics on night motor accidents prepared by the Street and Highway Lighting Safety Bureau of New York City. Since some correlation between speed and accident incidence seems to exist, several administrations have reduced the maximum legal speed limit with some reduction in the number of accidents. The same result has been sought through retiming traffic control signals so as to cut down the speed.

In many cities, intensive efforts were made to reduce the accident toll. During the first eight weeks of the year traffic deaths in Cleveland were cut from 40 in 1937 to only 17; 16 of the latter being at night. Fourteen of these 16 were pedestrians who were run down. All such pedestrians wore dark clothing.

A check-up of 800 intersections in New York City before and after signal installation indicated that 8,000 signalized intersections had probably reduced accidents by almost 5,000. Figuring $2,000 per accident, it was estimated that an economic waste of $10,000,000 per annum is thus prevented by a traffic signal installation with $750,000 per year estimated overhead and operating cost. The latter includes interest at 4 per cent, depreciation at 6 per cent, rental of land and current, depreciation of buildings and motor trucks, labor and materials, and salaries of engineers and administrators. Trucks were depreciated 20 per cent per year. No signal is installed where traffic is less than from 800 to 1,000 vehicles per day. The National Safety Council estimates $2,500 per accident, on which basis the annual waste saved in New York City would aggregate $12,500,000.

The new Merritt Parkway through Conn., paralleling the Boston Post Road, was opened on June 29 and for a period of three months experienced 46 accidents over a length of 17½ miles. The numbers of vehicles on the two thoroughfares were found to be practically alike. It was found that 111 accidents (including one fatality) occurred on the Post Road during the same period. This latter figure was a reduction of 40 per cent below the 1937 record. It was estimated that the parkway traffic involved one accident for every 7,700,000 vehicle miles, which is considered an excellent record.

The Rubber Manufacturers Association reported that tire failures are 20 per cent more numerous per million gallons of gasoline consumed in summer than in winter. At 90 degrees temperature tires wore twice as fast as at 60 degrees, but the major troubles come from heat generated internally which may reach 350 degrees in a truck tire.

In the discussion of a paper on Motor Transportation presented to the American Society of Civil Engineers it was stated that the maximum road speed of automobiles has increased from about 58 miles per hour in 1926 to about 87 miles per hour in 1937. During the same interval the increase in automobile registration was less than 5 per cent but the fatalities on rural roads (where the maximum speeds are found) increased about 37 per cent, night accidents having increased about 60 per cent. It was stated to be doubtful whether drivers had any more ability to handle cars in 1937 than in 1926, but even if skill had improved a little there was little evidence to show that judgment had improved, most accidents being caused by lack of judgment rather than lack of skill.

Tests made with reference to the relation between visibility distance and beam candle power showed that visibility distance is reduced by 1/3 at 65 miles an hour, but that this reduction can be regained by trebling the beam candle power. Whereas the head lamps generally found in service provide only 20,000 candle power at a speed of 50 miles per hour, a beam of 75,000 candle power is required to provide a visibility distance equal to the stopping distance for that speed. An opposing 5,000-candle power beam reduces perception by 60 per cent.

Compulsory vehicle inspection has come to be an approved method of preventing one class of accidents. Such compulsory motor vehicle inspection grew in the number of cities involved and in the scope of the work, 15 States and more than a dozen cities having enacted compulsory automobile inspection laws. Annual inspections vary in number from one to three in various States. As much as 50 cents is the fee charged in some instances. Some 900,000 vehicles were inspected in New Jersey's first compulsory inspection period. During six months' time the death rate was reduced 28 per cent against a national reduction of 15 per cent. Of the total number of cars inspected, one half had improper headlights, one fourth required brake equalization, while one seventh needed brake service.

Basic data upon which to plan local accident prevention changes and improvements in traffic regulation measures is obtainable only through detailed surveys. At the beginning of the year there were in operation 21 state-wide traffic survey projects, six county projects and 34 city traffic survey projects under the Civil Works Administration, the Federal Emergency Relief and the Works Progress Administration.

TRAFFIC REGULATION

Los Angeles put into effect the old scheme of providing three lanes westbound during the evening rush hour and one lane eastbound, on five streets and boulevards, thereby greatly increasing the facility of movement. Twenty-four per cent of the flow occurred in the lane nearest the curb while the second lane carried 36 per cent and other lane 40 per cent. The latter had a peak of approximately 1,000 cars per hour despite heavy movement of cross traffic at many signalized intersections.

Akron, O. has placed a four light traffic signal at a five point intersection in order to provide for a large amount of left turning flow together with another special control signal which will provide periods for pedestrian crossing, during certain hours of the day. Additional installations of the 4-light system to include pedestrian control were planned.

The difficulty of securing observance of traffic regulations at one main intersection in Los Angeles, where 2,500 cars per hour are the normal traffic flow, was largely reduced by the installation of an extra center hung signal in addition to the four on the several corners.

By painting lines for a distance of 200 feet on the sides leading up to certain congested intersections in St. Louis which were controlled by automatic signals it was found that at least 50 per cent more vehicles passed per single cycle than before the lines were installed.

A device built into an automobile roadway near one end of the Golden Gate Bridge permits cars to pass in one direction but automatically maintains its bar against traffic in the opposite one. It consists essentially of a platform hinged along one edge which extends across the pavement, the other edge of the platform raised by counterweights so as to present a raised barrier to traffic approaching in the wrong direction. The barrier is substantial enough to stop a car going in the wrong direction but swings downward to roadway level under the weight of a car which mounts it over its hinged edge.

The first or south tube of the new Lincoln Tunnel under the Hudson River in New York City and Weehauken was dedicated on Dec. 21, 1937. This adds one more to the traffic facilities under the jurisdiction of the Port of New York Authority. Except for its 18-inch greater roadway width the Lincoln Tunnel is patterned after the Holland Tunnel. It has an identical ventilating system and is also brightly lighted. An innovation is the ceiling of glass tiling.

A super-highway was planned through the Alleghanies to make use of an abandoned railroad right-of-way which had reached 65 per cent completion. One of the reasons for the road was stated to be the death of 11,546 Pennsylvanians by traffic in five years.

The statement was made to a Senate Sub-Committee that a national system of special motor roads could not now be financed by tolls. This was based upon traffic and financial surveys in 45 States. Of 82,000 vehicles which crossed the Hudson River daily only 3,100 go beyond Pennsylvania.

A prominent monthly magazine published an illustrated article advocating the constructing of "limited ways." In another publication, a prominent traffic engineer points out that, if only about two per cent of the total highway mileage of the country were converted to limited ways at a cost of about $500,000 a mile, the expenditure would amount to $28,000,000,000. It was the opinion of this same traffic engineer that it would be improbable that a material reduction could be made in the accidents.

Statistics show that there is a slight trend toward the construction of highways with four lanes compared with all other roads. A vast majority of the present mileage is of the two-lane type. The highest quality road is being constructed with a central planted strip which prevents head-on collisions and reduces headlight glare.

One-way street data compiled on the basis of one year's experience before and after the change was reported in a paper at the annual meeting of the National Highway Research Board for six cities relating to 11 separate streets, and general data from several other cities. Six streets now utilize three lanes of moving traffic where formerly two could be used. One street was increased from two lanes to four lanes and one four-lane street now carries six lanes. Traffic volumes on all lanes increased from 20 to 300 per cent, averaging about 93 per cent, while at the same time the average city-wide traffic increased only between 12 and 20 per cent. On six streets an average speed of 9 to 18 miles an hour was increased to from 21 to 35 after the change. Accidents were decreased better than 50 per cent. However, on three streets on which the flow is reversed, there was an increase in accidents of about 90 per cent while at the same time the city-wide accident rate showed a 70 per cent increase. Where intelligently designated, one-way streets appeared to have met with general approval except on the part of some business houses which might be directly affected, although this opposition decreased as time passed.

THE PARKING PROBLEM

The installation of parking meters increased and their popularity grew. A special inquiry was made of the members of the National Association of Building Owners and Managers. One city had between 2,000 and 2,500 meters. With rare exceptions the public attitude was favorable, but there still remain certain legal questions generally as to the right to make a charge. Of the cases so far adjudicated meters were validated in all except one instance. The general opinion was that it did not hurt garage or parking lot business except in a few cases.

A comprehensive statistical report on parking meters was also made by the New York Bureau of Municipal Information. This was reviewed at length by the American Automobile Association which closed with the statement that the 37 cities investigated agreed that the meters had effectually reduced cruising; had speeded traffic flow in 36 cases; and provided more parking spaces to the extent of two to five times the former amount.

Experience with parking meters in Norfolk, Va., compared with parking regulation enforcement in non-metered areas, showed the need of four times as many officers in the latter with less rigorous enforcement.

Fifty-three municipalities in New York State provide parking lots in their business districts. In Ithaca and New Rochelle charges of various amounts are made for parking. The capacity of the parking areas ranges from 25 cars in Hastings to 1,000 in Valley Stream. In 15 other States similar provisions are made, with Chicago providing for 3,500 cars at 25 cents for 24 hours. Many cities use formerly city-owned plots but in other cities lots have been purchased, Flint, Mich. having expended $110,000. Other cities lease lots. A few cities are using land taken over for delinquent taxes.

Los Angeles has probably the largest off-street parking facilities with 652 parking lots and garages accommodating 56,000 automobiles, including public and private parking lots. Hartford, Conn. and Nashville, Tenn. have 125 each with five other cities having more than 50 parking lots in the downtown sections.

Garden City, New York, secured an amendment to the village law to permit a municipality to acquire space for parking and to license the use of that space. By this device parking at suburban railroad stations was restricted to residents, whereas formerly the space had been used almost exclusively by cars from nearby communities. Following this success, a comprehensive scheme for the provision of municipally-owned parking facilities in all business districts was dedicated on June 23. Seventy-five per cent of the cost was assessed while the balance became a general village expense. The spaces are planned with footwalks to the connecting streets, new planning, together with ample night lighting.

The abandonment of street car lines and the substitution of buses on certain streets in St. Louis led indirectly to the prohibition of parking and the compelling of buses and service cars to confine themselves to lines adjacent to the curb.

Moves for the elimination of parking created initial opposition by department store owners, merchants and shop keepers but it has been shown that such parking prevents motorists from reaching their doors, contributes to congestion which prevents mass transportation carriers from delivering customers, and drives trade to outlying stores.

It was estimated that in Milwaukee downtown business demands on parking created an annual potential tariff of nearly $1,250,000. To obviate this annual expenditure it was advocated that property aggregating approximately ¼ of each of four blocks which abut on a selected intersection should be cleared and used for parking purposes.

TRAFFIC CONTROL AND ACCIDENT PREVENTION DEVICES

Among many new devices marketed to aid traffic control and accident prevention, only a few can be mentioned. A series of long glass prisms mounted over the center of a roadway at the crest of a hill now makes it possible for drivers to "see what is over the hill" according to the advertisement of the device. Since an installation was made in Minnesota early in 1937 no accidents have occurred at this previously dangerous location.

A manufacturer of highway reflectors has demonstrated their advantage for night driving, for marking both sides of the pavement.

The *Technical Press* reports the development of a new motor vehicle light which pierces fog sufficiently to enable a driver to proceed at from 25 to 40 miles an hour through a fog that obscures vision five feet ahead of the radiator with ordinary lights. The new device is reported to give clear vision for 50 feet in a fog of that nature.

One of the engineering magazines pointed out that the States are almost evenly divided on the question of giving legislative recognition to the idea that ultra-slow drivers like ultra-fast ones are highway menaces. A total of 22 States now have minimum speed laws in effect.

A court case in Detroit resulted in sustaining the validity of an ordinance and the right of the city reasonably to regulate and control trailer camps. Trailers were required to pay a license fee of $10. The total trailer population in several camps approximated 3,000 individuals. The case is being appealed.

The American Standard Association has set up a coordinating department to lead in the establishment of new and revised automobile and traffic standards. These include a revision of the traffic signal code, there being a growing tendency to deviate from the present national standard shades of green, red and yellow used in traffic signals.

DRIVER EDUCATION

Application of psychology to the analysis of driving habits and accidents was made at Iowa State College through both indoor and outdoor tests. In the laboratory a special apparatus was employed while out of doors a 1,400-foot course was planned on a special testing field. The problem of what constitutes a good driver was analyzed as to 32 items.

While it has often been assumed that traffic accidents were proportional to mileage, analysis discloses that in one city repeaters averaged 13,100 miles per year while the average driver operated 13,000 miles. In another city, repeaters averaged 13,500 and normal drivers 15,570.

The American Automobile Association published a brief statement pointing out that young drivers aged 16 to 20 drove less than 1/5 as far per fatal accident as did drivers aged 45 to 50. The most promising approach to improvement in this matter is the education and training of boys and girls in high school and the previous training of the teachers who give the essential courses. The American Automobile Association has been active along this line and has supplied over 5,000 high schools with "Sportsmanlike Driving" texts.

Investigations made by the Michigan Highway Planning Survey revealed that stop sign violations were cut 50 to 75 per cent by increasing the size of the signs.

Special driving skill tests in the District of Columbia were administered by a prominent insurance company. Preliminary figures appeared to indicate that drivers with slow reaction time have better accident records than the quicker ones. Drivers with a reaction time of ½ second or less showed 40 per cent more accidents than would be expected by chance and those with a reaction time of ¾ of a second or more had 40 per cent fewer accidents than theory would predict. The fast reaction time drivers seemed to be of the nervous or jittery type.

THE DRINKING DRIVER

The *Journal* of the American Medical Association published the results of a rather extended investigation of alcohol in relation to traffic accidents made by five collaborating hospitals, motor clubs and other interested groups under expert guidance. The data secured were analyzed by technical statistical methods. Several interesting conclusions were reached. The percentage of drinking drivers in the general population varies as does the percentage of drinking drivers in the personal injury accident group but falls considerably lower at all times. The percentage or number of drivers involved in personal injury accidents varies as does the percentage or number of drinking drivers. The highest percentage of drinking drivers is found in the early morning hours and over the week-end, while the largest number of drinking drivers occurs in the early evening and over the week-end. Proportionally, women drink and drive as much as men when the number of women driving at various hours of the day is considered. The peak age for drinking drivers is from 25 to 30. As the blood alcohol content increases, the number of drivers appearing in the personal injury accident group increases out of all proportion over that in the general driving population.

As alcohol increases, accidents increase and at a rate somewhat proportionate to the increase in alcohol. Equal percentages of drinking drivers are found in the accident group and in the general population group at a point near 0.5 part of alcohol per 1,000 parts of blood, indicating that alcohol in that amount is not necessarily a significant cause of accidents. It has not yet been objectively and conclusively proved just how important a causative factor alcohol is, and because of the complexity of the whole accident problem, it may never be proved. In this work a total of 270 persons were examined who were drinking drivers involved in personal injury accidents. As a basis of comparison, 1,750 persons were chosen at random to serve as a control for the other study.

EDUCATION AND PUBLICITY

More than 500 municipal police have been trained in the science and art of accident prevention at 18 training schools for traffic officers during the last five years. The course in traffic control and accident prevention conducted by the Northwestern University Traffic Safety Institute is supported by the Kemper Foundation, sponsored by the Lumbermen's Mutual Casualty and American Motorists' Insurance Companies and the

Alfred P. Sloan, Jr. Traffic Safety Award, $25,000 having been given in 1938 by those two agencies. Twenty police officers attended the course on fellowships of $1,200 each.

In addition to Northwestern, Yale, Michigan, Illinois, Rutgers and doubtless other universities gave courses in traffic engineering and related subjects.

The Institute of Traffic Engineers continued to grow in size and influence. Its 1937 Proceedings contained papers on by-pass routes, pedestrian protection, reckless drivers, traffic planning, and a number of other topics.

One of the papers presented at the annual meeting of the Institute of Traffic Engineers stated that persons 65 years or older account for 26 per cent of pedestrian deaths. In Cleveland pedestrians comprise 75 per cent of the total deaths caused by motor vehicles. In New York the drinking pedestrian is becoming an increasingly serious factor in the night accident fatality list. Brain tests of pedestrians so killed disclosed that 35 per cent had been drinking. Another paper reported facts developed from the known wide highway planning surveys among which were data to the effect that strings of cars follow each flow on the road at 50 mile speed with only 1½ second spacing (or 110 feet) and that fully 2/3 of all cars drive even closer to the one ahead. Another fact discovered is that heavy trucks slow down to five miles per hour when ascending a six per cent grade thus tying up all traffic behind them.

The autumn meeting of the American Society of Civil Engineers devoted considerable space to traffic matters. Among the papers presented was one with reference to the Buffalo traffic survey, on the basis of which a progressive stop-and-go signal system was set up on Delaware Avenue which provided a speed of 25 miles per hour, accommodating 1,200 vehicles per hour per lane. Another paper described the location of superhighways in New York State. They are mainly built on new right-of-ways 250 feet wide. The average cost per mile of the 1,000 miles proposed will average $300,000. Two 12-foot lanes each with a 20-foot mall between is to be the usual section. Only minor improvements can be made to the existing 80,000 miles of two lane roads, such as lengthening curves, increasing sight distances, providing better signs and constructing pedestrian walks.

The Committee on Pedestrian Control and Protection of the National Safety Council reported at its annual meeting numerous statistics which showed that in cities where pedestrian obedience of traffic signals is high the pedestrian accident rate is lower than in others. Also the pedestrian accidents are a smaller percentage of the total in those cities where obedience is greater. They also reported on the high incidence in the case of elderly pedestrians and intoxicated pedestrians. Data reported by them was that in Detroit on Grashet Avenue pedestrian accidents at night were reduced about 34 per cent following improved lighting according to "before and after" studies. Crosswalk markings and barriers, pedestrian traffic signals, pedestrian islands and safety zones, pedestrian tunnels and bridges, rural and suburban walkways and rigid enforcement of pedestrian control legislation were discussed and special consideration urged by the authorities.

The Committee on night accident hazards of the National Safety Council presented statistics showing that night deaths, both rural and urban, have increased more rapidly than the day rate. In fact, urban daylight fatalities have decreased during the past eight years and rural daylight fatalities have increased only slightly. In five years the rural night fatalities increased over 60 per cent. Slower prima-facie speed limits at night than during the day were advocated. The increased intoxication and increased fatigue on the part of night drivers was discussed. It was shown that highway design should be improved especially with reference to signs and markers. Illumination received detailed consideration as did also the matter of automobile headlights.

Polarized headlighting on the one end and physiological glare recovery time on the other were considered and data adduced. It was suggested that persons forced to walk along highways after dark should wear light colored clothing, carry a light where practicable and/or a white handkerchief. All walking should be done facing traffic.

The annual meeting of the Highway Research Board in Washington drew a large attendance. Traffic problems gave rise to an extended symposium. The better safety record of 1938 as compared with 1937 was variously attributed to better cars, better drivers, and chance. Road signs have become so numerous as to be unsafe and are being eliminated to some extent. Turnouts for trucks were suggested for installation on long grades. One study found that four times as many accidents occurred at a crossroad as at a T, V, or forked intersection, but the relative volumes of traffic were not reported. Tests indicated that the maximum number of vehicles pass on speeds between 30 and 35 miles per hour. The director of the Bureau of Street Traffic Research of Yale University described a parabolic barrier four feet high and four feet wide at the base designed for installation along the center lines of highways wider than two lanes, to redirect automatically a car away from the barrier back on to the roadway. Tests of such a barrier of metal were made in cooperation with the Michigan State Highway Department for all types of motor vehicles from light passenger cars to 15-ton trucks and at speeds from ten to 60 miles an hour. In no case was a car put out of control or damaged in any way or the occupants harmed.

PERIODICAL PUBLICATIONS

Bus Transportation
330 West 42nd. Street, New York City.
Economic Geology
University of Illinois, Urbana, Ill.
Electrical Communication
67 Broad Street, New York City.
Electrical World
330 West 42nd. Street, New York City.
Gas Age-Record
9 East 38th. Street, New York City.
Journal of the American Water Works Association
29 West 39th. Street, New York City.
Journal of Geology
5750 Ellis Ave., Chicago.
National Engineer
5447 Wayne Ave., Chicago.
Public Service Magazine
35 East Wacker Drive, Chicago.
Public Utilities Fortnightly
Munsey Building, Washington, D.C.
Public Works
310 East 45th. Street, New York City.
Sewage Works Journal
654 Madison Ave., New York City.
Transit Journal
330 West 42nd. Street, New York City.
Water Works and Sewerage
155 East 44th. Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Planning and Civic Association, 901-3 Union Trust Building, Washington, D.C.

American Public Utilities Bureau, 280 Broadway, New York City.

VIII. PUBLIC RESOURCES AND UTILITIES

American Transit Association, 292 Madison Ave., New York City.

American Water Works Assn., 22 East 40th St., New York City.

Edison Electric Institute, 420 Lexington Ave., New York City.

International Assn. of Fire Chiefs, Police Headquarters, Philadelphia.

National Electric Light Assn., 420 Lexington Ave., New York City.

National Parks Assn., 1512 H St., N.W., Washington, D.C

Park Assn. of New York City, Inc., 295 Madison Ave., New York City.

Public Service Commission, State Division, 80 Centre St., New York City.

DIVISION IX
DEFENSE AND ARMAMENT

ARMY OF THE UNITED STATES

By Robert S. Thomas

Chief Clerk, Historical Section, Army War College

THE ARMY'S PLACE IN NATIONAL LIFE

The Chief of Staff, General Malin Craig, in his last annual report stated concisely the army's role in relation to the whole population. He wrote: "It is a source of gratification to record that during the past year our people seem to have come to a clearer understanding of the fact that our Army is purely defensive in type and non-provocative in outlook. The charge that it is militaristic, that its activities menace peace, is now rarely heard. The facts are, of course, quite the reverse. Our Army has never in the slightest degree contributed to the occurrence of any of our wars. Throughout its entire history it has remained consistently within the field assigned to it by the Constitution—always wholly subordinate to the civil authorities. It has jealously guarded itself against political connections of any nature. It has remained true to its traditions—withdrawn and aloof in peace; a forward, dependable bulwark in war."

PROTECTIVE MOBILIZATION PLAN

This plan, originated in 1937, is being worked upon for perfection of details. It visualizes in the event of a major war the mobilization of a force of 1,000,000 men, employing immediately an initial protective force of approximately 400,000 men. This initial protective force will comprise Regular Army and National Guard units at existing strength, augmented by such recruitment of personnel as can be secured, emphasizing those who have had prior military training. With this initially mobilized force as a nucleus, larger armies as needed can be progressively mobilized, trained and equipped.

ORGANIZATION

The War Department, functioning as the managing agency of the Army, is presided over by the Secretary of War (Harry H. Woodring) who has two assistants—Assistant Secretary of War (Louis Johnson) and Chief of Staff (General Malin Craig). Under this combined direction, the General Staff and the various arms and branches of the service operate. The advice and best judgment of the Chiefs of the service reach the Secretary of War through the Chief of Staff and the Deputy Chief of Staff (Brigadier General George C. Marshall).

Flexibility in command and control is assured by the practice of dividing the United States and its possessions into Corps Areas and Departments, each in turn commanded by a general officer. First Corps Area (Major-General William H. Wilson) headquarters, Boston; Second Corps Area (Major General Hugh A. Drum) headquarters, Governors Island, New York; Third Corps Area (Major General Lucius R. Holbrook—temporary command being exercised by Major General James K. Parsons) headquarters, Baltimore; Fourth Corps Area (Major General Stanley D. Embick) headquarters, Atlanta; Fifth Corps Area (Major General Daniel Van Voorhis) headquarters, Columbus, Ohio; Sixth Corps Area (Major General Stanley H. Ford) headquarters, Chicago; Seventh Corps Area (Major General Percy P. Bishop) headquarters, Omaha; Eighth Corps Area (Major General Herbert J. Brees) headquarters, San Antonio, Texas; Ninth Corps Area (Major General Albert J. Bowley) headquarters, San Francisco; Hawaiian Department (Major General Charles D. Herron) headquarters, Fort Shafter, Territory of Hawaii; Philippine Department (Major General John H. Hughes) headquarters, Manila; Panama Canal Department (Major General David L. Stone) headquarters, Quarry Heights, Canal Zone and, within this Department, the Atlantic Sector (Brigadier General Richard C. Moore) and the Pacific Sector (Major General Ben Lear). These areas and departments are further subdivided into tactical divisions and brigades.

Under the Four Army Plan, providing for the largest groupings of our armed forces, there are the following establishments of Army Headquarters: First Army (Major General Hugh A. Drum) Governors Island; Second (Major General Stanley H. Ford) Chicago; Third (Major General Stanley D. Embick) Atlanta; and Fourth (Major General Albert J. Bowley) at San Francisco.

ARMY STRENGTH

Regular Army.—Authorized commissioned strength was 14,659. On June 30, 1938 the actual commissioned strength (less Philippine Scouts and retired officers on active duty) was 12,472, an increase of 197 over the preceding year. Enlisted strength, less Philippine Scouts, was 163,800 on the same date, providing an increase over the preceding year of 5,174 but leaving the Army still short of its authorized average strength of 165,000 enlisted men. The Philippine Scouts accounted for 42 commissioned officers and 6,351 enlisted men. Warrant Officers of the Regular Army totaled 782 as compared to the preceding year's 794. The recommendation of the Chief of Staff in the preceding year for the establishment of an enlisted reserve in the Regular Army was accomplished by Public Act 491 of the 75th Congress which authorized the reestablishment of the Regular Army Reserve. This had been abolished previously by the Reorganization Act of June 4, 1920. Enlistments are now being received of honorably discharged enlisted men into this newly established Reserve.

National Guard.—The authorized increment of 5,000 officers and men, due the National Guard, was ordered held in abeyance until 1939 when it is expected to bring the Guard to a strength of 210,000.

Organized Reserves.—This component of the Army, on June 30, 1938, numbered 100,116 officers eligible for active duty and 2,998 enlisted men.

TRAINING

Aerial.—This year (1938) has been noteworthy for the conduct of military exercises and maneuvers of unparalleled importance in American military history. In May over 200 planes of the General Headquarters Air Force were concentrated in the northeast to participate in an aerial exercise which had as its objective the defense of New England against a mythical invader. The participating planes, concentrated from permanent stations as far away as the Pacific Coast, flew 1,500,000 miles, attesting in striking manner the strategic mobility of this defensive arm.

Army Maneuvers.—In August, all the Regular Army and National Guard units, and many Reserve officers of the Third Army took the field in an exercise in which 66,500 officers and men participated, the largest concentration of troops in a single related maneuver in American peacetime history. In September, the Second Army conducted at Fort Knox, Kentucky, a Command Post Exercise for the training of higher commanders and their staffs. Five hundred officers from the Regular Army, National Guard, and Organized

Reserves participated, representing 12 Infantry and three Cavalry Divisions, two Cavalry Brigades, a Mechanized Cavalry Brigade and a Composite Wing of the General Headquarters Air Force. In October, a joint antiaircraft artillery-Air Corps exercise was conducted at Fort Bragg, North Carolina, constituting the most significant air defense problem in the Army's history. This exercise included formation of a huge aircraft warning net, comprising 300 stations, many of which were voluntarily operated by interested civilians. In the same month at Fort Riley, Kansas, the 7th Cavalry Brigade (Mechanized) engaged in tactical exercises with the horse Cavalry permanently stationed at that post. To participate in these maneuvers, the mechanized brigade marched over 750 miles from its home station at Fort Knox, Kentucky, in five marching days. Over 2,000 officers and men, and 600 vehicles participated in this movement, the largest movement of a mechanized force ever attempted in the United States.

National Guard.—Participation in the William Randolph Hearst Musketry Competition was a source of stimulation for unit-fire training. Three-fourths of the organized firing batteries of the Guard's Coast Artillery fired service practices and 44 National Guard teams attended the National Rifle Matches at Camp Perry, Ohio. Great need exists in some States for larger and improved target ranges as an incentive to training.

Organized Reserves.—A total of 27,685 officers of this component of our forces received active duty training, during the fiscal year 1938, an increase of 3,400 over the preceding year. The Civilian Conservation Corps employed 4,704 Reserve Officers in administrative work during the year.

ACCOMPLISHMENTS OF PERSONNEL—FIELD ARTILLERY

Active units of the Regular Army continued to receive the modernized 75 mm. gun and this phase of the armament program is nearing completion. To attain the objective of high-speed transportation, so necessary to modern warfare, artillery material with all active units, together with a considerable number of guns in reserve, was modified during the year. Voice radio equipment was provided and tests to improve ordnance, communications, and motor equipment were furthered. A new 105 mm. howitzer for divisional artillery was further developed and will soon be ready for testing.

SIGNAL CORPS

Eighty-two stations were operated in the Army Administrative System of radio communication, handling 119,596,155 words of gross traffic. The Army Airways Communications System, covering continental United States, Panama and Hawaii, now has 34 of its contemplated 36 stations completed. The purpose of this network is to handle all plane movement messages and weather information in connection with Army planes. Operation of the system will be in the hands of the Air Corps. The Alaska Communications System cooperated in the search for the lost Russian flyers and also with the details of the Hughes flight. Of commercial traffic, 11,079,836 words and of Government traffic, 6,137,627 words were handled by the Alaskan system. An interesting piece of equipment, a meteorograph, was put into general use in the Corps in the closing months of the year. The instrument consists of three parts: a device that measures the values of the pressure, the temperature and the moisture content of the atmosphere; a small radio transmitter; and a battery. Its use enables an observer on the ground to obtain quickly the pressure, temperature and moisture content of the atmosphere at various levels between the ground and ten or more miles above the earth's surface.

A small Signal Corps training film field unit operated at various locations and this same service made and released six new films for training purposes.

The Pigeon Service continued its experiments in training pigeons to home to a mobile loft and tests were made for a new type of message container, a capsule so light and its weight so well distributed as to offer no interference to the birds' flight.

ENGINEER CORPS

Progress was made in the construction of fixed and floating bridges, in the improvement of searchlight and electrical equipment, in devising obstacles to mechanized forces, in the improvement of aerial photographic mapping equipment, and in the method of producing maps from aerial photographs. For topographic work, the 29th Engineer Battalion has been partially equipped with aerial mapping equipment of the multiplex type. The Corps expended $200,704,376 for improvements to waterways and control of floods, providing direct and indirect employment for several hundred thousand persons. There are approximately 1,000 separate approved river and harbor projects and nearly 400 flood control projects operative throughout continental United States and Puerto Rico, Alaska, and the Hawaiian Islands.

CAVALRY

Practical tests were made of the new horse cavalry division organized in Texas. Combined horse-mechanical maneuvers were held at Fort Riley and other cavalry units participated in army maneuvers. Combat equipment was completed for the mechanized cavalry brigade and mechanized vehicles were provided for horse cavalry units. The autogiro was tested for command, communication and observation purposes in use with cavalry as well as a test with airplanes as a possible means of supply for cavalry units. The submachine gun and a 60 mm. mortar were standardized for cavalry.

ORDNANCE DEPARTMENT

Long investigation and testing of semi-automatic rifles culminated in the standardization of a weapon known as the Ml Cal. .30 rifle, designed to replace the familiarly known "Springfield." This new weapon is the same caliber as its predecessor, uses the same ammunition, and is equally accurate. In the hands of a trained rifleman it has raised the rate of fire for aimed shots from 15 to 60 shots per minute. The Ordnance Department also perfected an 8-inch gun mounted on a specially built flat car. This weapon, susceptible of rapid movement over our railway network, can be readied for firing in less than five minutes after arrival at destination. By firing a 250-pound projectile a distance of approximately 20 miles, this weapon doubles the range of the old 8-inch railway gun; in addition, it can fire from two to three shots per minute, approximately twice the rate of fire of the older weapon. For the cavalry, the new 75 mm. field howitzer further demonstrated its suitability because of its extremely low silhouette, its wide traverse, and its peculiar efficiency in firing against moving targets.

INFANTRY

As a result of tests to find an automotive vehicle which would satisfy the Infantry's urgent need for mechanical means of carrying weapons and ammunition on the battlefield, decision was centered on the four-wheel drive commercial truck chassis, one-half ton capacity, since it outperformed all vehicles tested, including those animal drawn and of the track laying type. It negotiated all manner of terrain and, when equipped for carrying and moving machine guns and mortars, antitank guns and ammunition, the battlefield mobility of these heavier weapons and ammunition will have approached more nearly that of the foot elements which they assist and support.

Until 1938, models of tanks tested failed either from lack of armor, armament, or because of mechanical instability. However, the medium type tank now developed and rigidly tested meets all technical and tactical requirements and tank organizations are now being rearmed with this modern weapon.

COAST ARTILLERY

Using additional funds provided during the year, the program of modernization and augmentation of our seacoast, canal and island defenses, begun in 1937, was very considerably advanced in 1938. Improved methods were developed for controlling the fire of antiaircraft weapons; a new type sound locator was standardized; submarine mine systems were improved; and a system for transmitting seacoast battery data was standardized.

CHEMICAL WARFARE SERVICE

This service continued work on its principal missions, the investigation of chemical warfare material and gas defense appliances, the procurement to the Army of smoke, chemical agents and gas defense appliances, the operation of special gas troops, the conduct and supervision of training of the Army in chemical warfare, both offensive and defensive. A number of service items passed the development stage during the year and were sent out for field test in the various arms and services. Among the more important of these was the low cost training mask.

AIR CORPS

Six YIB-17 airplanes ("Flying Fortresses") left Langley Field, Virginia, on the morning of Feb. 15 for the Municipal Airport at Miami, Fla., the official departure point of the flight to Buenos Aires, Argentina. This was a good-will flight and the purpose of the visit was to participate in the inauguration ceremonies on Feb. 20 of the President-Elect of the Argentine Republic, Dr. Roberto M. Ortiz. On Feb. 27, the planes returned, the flight having been completed successfully and having earned the commendation of the Argentine officials as well as those of our land. From the White House, the following laconic message was despatched to reach the flight commander, "Well done—F.D.R." As a result of this friendly gesture, Dr. Ortiz later requested and secured the services for a time of eight of our Air Corps officers to be used in giving technical training and instruction to Argentinian officers. Another good neighbor gesture was that extended to Dr. Eduardo Santos upon his inauguration as President of Colombia on Aug. 7. Three B-17 planes from the GHQ Air Force at Langley Field made the flight, returning to the United States by way of France Field, Canal Zone.

On May 1, the Commanding General GHQ Air Forces issued orders to his three Wing Commanders to concentrate their forces for a maneuver involving the New England area. The largest single portion of these exercises involved the assembling of a considerable number of planes on May 17th at Mitchell Field, Long Island, engaged there on a special problem. New airplanes and new items of equipment were tested in the maneuvers. These latter included: Sealed-in-Air Food Containers; Portable Photographic Laboratory; Full Feathering Propellers; Photo-flash Bombs for Night Photography; Field Wrecking Truck; Portable Runway Lighting Equipment; Portable Lifting Jacks for Heavy Bombers; Field Bombing Loading Equipment; Stabilized Drift Meters and Navigation Equipment; Portable Field Servicing and Repair Unit. Experimental planes involved were the Lockheed XC-35, known as the Substratosphere plane; the XB-15, the largest military plane yet built in this country; and the Bell Multiseater Fighter, popularly called the "Airacuda," carrying a crew of five men and mounting aerial cannon.

On June 30, a "Flying Fortress," the B-17, completed a high altitude dawn-to-dusk flight from March Field, Riverside, California to Langley Field, Virginia. This non-stop flight consumed 11 hours 20 minutes over a logged distance of 2,317 miles at an average speed of 204.6 miles per hour. The "Fortress" flew at an altitude between 13,000 and 16,000 feet with its passengers 'on oxygen' all the way.

The Air Corps participated in the National Air Races at Cleveland, Ohio, providing a ground exhibit of modern tactical planes and giving daily flying demonstrations of some of the newer types, including the Kellett Autogiro. In this same month, units from the First Wing and from the Second Bombardment Group participated in the American Legion National Convention parade at Los Angeles.

A new course was initiated designed to train Air Corps pilots in handling the Kellett Autogiro, with a view to determining its usefulness for observation missions, in lieu of ordinary planes or balloons.

The Collier Trophy, aviation's highest honor, was awarded by the National Aeronautic Association to the Army Air Corps. It is based on the greatest achievement, in any one year, the value of which has been demonstrated in actual use. The citation accompanying this year's award read: "To the United States Army Air Corps for having designed, supervised the construction of and completely equipped the XC-35 Substratosphere plane, the first pressure cabin airplane to be flown successfully anywhere in the World."

Work was begun in fitting Scott Field, Ill. as the new headquarters of the GHQ Air Force, now stationed at Langley Field. This transfer will place the command more nearly at the geographical center of the United States and afford it a much better strategical location than it now has.

To develop high speed fighting planes, tests were successfully completed of oppositely revolving propellers on a single-seater fighting plane.

In the Big Bend district of Texas, aerial delivery of supplies to a cavalry detachment was proved a success. Food, hay, grain and wood were dropped from the air. Only one parachute out of twenty failed to open and only two eggs out of four dozen dropped to soldiers were cracked.

Meteorological work, formerly done by the Signal Corps, was undertaken by the Air Corps and a Weather School, located at Patterson Field, Fairfield, Ohio, was operated during the year.

From Oct. 3–17, an Antiaircraft-Air Corps exercise was held at Fort Bragg, North Carolina. This involved heavy concentrations of equipment and, in addition, the enlisting of civilian aid on a large scale in the installation of an extensive warning net encircling Fort Bragg with a radius reaching to the North Carolina coast. A similar exercise, but on a much smaller scale, was held on the West Coast in April. The net established at Fort Bragg consisted of some 300 stations and utilized existing commercial telephone facilities, together with similar facilities of the various Federal, state and municipal agencies, and of railroads and power companies.

The Air Corps suffered the loss of its Chief, Major General O. Westover at Burbank, California, on Sept. 21 when his plane struck and was consumed in flames.

QUARTERMASTER CORPS

The work of this Corps was interrelated with the preparation of plans and specifications covering a huge PWA-WPA construction program totaling $63,356,900 and the preparation of plans for the expenditure of $12,108,380 received under the Military Appropriation Act of 1939.

SURGEON GENERAL'S OFFICE

In connection with the inauguration in 1936 of the use of a new strain of typhoid bacilli for vaccination, attention has been focused on the suitability of this organism in the hope of arriving at better protective qualities. The phase under study has been the persistence of immunity to typhoid fever. Immunity artificially built up through vaccination decreases with time so that the Surgeon General's Office, by reason of its recent studies, inclines to change in procedure from the present practice of administering two courses of vaccine, with three years intervening between first and second inoculations.

The Veterinary Division of this office renders unceasing service to the Army by its rigid inspection, both for sanitary condition and for quality, of all foods of animal origin used in the Army. Packing house and dairy products must pass the strict requirements of a provisions committee of which a Veterinary Officer is a member. Ninety-three certified officers of this service apply tuberculin tests to cattle intended for interstate commerce, passing only such as meet the rules and regulations established by the Department of Agriculture. The Veterinary Division had to contend with an outbreak of equine encephalomyelitis which swept from the Canadian border to Texas. This malady is mosquito transmitted which renders its treatment especially difficult. However, evidence is accumulating which tends to indicate that vaccination with vaccine prepared from chick-embryo tissue in which the encephalomyelitis virus is grown will produce a substantial type of immunity in susceptible horses.

CONSTRUCTION AND HOUSING

Combining allotments from the Public Works Administration and appropriations made at the last session of Congress, funds totaling approximately $80,000,000 have been made available for permanent construction work in the Army. Such building will solve most of the Army's urgent housing needs, alleviating crowded conditions in Army posts, doing away with unsuitable temporary buildings, and reducing current maintenance costs. Housing projected will take care of 17,904 enlisted men, 720 married noncommissioned officers, 57 nurses, 321 officers, and will provide an increase of 660 beds in hospitals. The sum of $3,000,000 has been provided to purchase ground for the erection of a much needed War Department building and plans have been drawn for a modern office building type of structure wherein can be housed all the War Department's many activities, now scattered among twenty buildings in various parts of Washington.

CIVILIAN CONSERVATION CORPS

Cooperating with other Government agencies similarly engaged, the War Department continued its administrative functions with respect to the Civilian Conservation Corps. The authorized enrolled strength was 300,000; the maximum number of camps in operation during the year was 1,849 and the minimum was 1.501. Since the establishment of the Corps in April, 1933 to July 1, 1938, a total of 2,441,821 men have been enrolled therein. During that period, a total of 2,210,730 separations occurred, leaving 231,091 enrollees at the close of the last fiscal year. At that same time there were on duty at the different companies and camps throughout the country 119 Regular Army Officers, 4,704 Reserve Officers, 115 Naval Reserve Officers, 25 Marine Corps Reserve Officers, 34 Enlisted Men of the Regular Army and 107 Warrant Officers of the Coast Guard.

PANAMA CANAL

The Panama Canal is an independent establishment in the Government service, directly under the President; but, as a matter of executive arrangement, the Secretary of War represents the President in the administration of Canal affairs. The present Governor of the Canal Zone is Brigadier General Clarence S. Ridley.

The area of the Canal Zone, including land and water, but not including the water area within the three-mile limit from the Atlantic and Pacific ends is 552.8 square miles. The area of Gatun Lake, when its surface is at its normal elevation of 85 feet above sea level, is 163.4 square miles. The water area of the Zone, including Madden Lake, which was formed by construction of Madden Dam in 1935, is 190.94 square miles. The Canal is 50.72 statute miles in length from deep water in the Caribbean Sea to deep water in the Pacific Ocean, while the shore to shore length is approximately 40½ miles. The channel ranges in width from 300 to 1,000 feet and the minimum depth is 41 feet. Average time of passage through the Canal is from seven to eight hours, record passage having been made in four hours, ten minutes. Maximum traffic capacity is estimated at 48 ships of usual size per day, or about 17,000 a year.

The civil population of the Canal Zone for 1938 was 29.063 of whom 8.693 were Americans. There are also military and naval garrisons. Of this population 2,601 Americans and 4.545 of other nationalities (chiefly Panamanian and tropical natives) were employed by the Panama Canal and the Panama Railroad. The total force employed in June, 1938 was 3,386 on the "Gold Roll" and 10,413 on the "Silver Roll." The gold roll comprises the supervisory, technical, higher clerical, and highly skilled mechanical employees; these employees are citizens of the United States with the exception of a few Panamanians. The silver roll is formed principally of natives of the tropics, but includes a few citizens of the United States engaged on low-paid work. The gross capital investment at the beginning of the fiscal year 1938 was $538,160,472.92 and the net capital investment, after deducting accrued depreciation, was $507,666,408.67. The net revenues of the Canal amounted to $13,909,903.26 on Canal operations and $824,612.60 on business operations. This totaled represents 2.9 per cent of net capital investment at the beginning of the year. During the fiscal year ended June 30, 1938, a total of 5,524 ocean-going vessels transited the Canal. This includes tolls-paying vessels of over 300 net tons, Panama Canal Measurement. Of these, 2,578 went from the Pacific to the Atlantic carrying 17,697,364 tons of cargo; 2,946 went from the Atlantic to the Pacific carrying 9,688,560 tons of cargo. The preponderance of cargo tonnage moving from the Pacific to the Atlantic was due to large movements of bulky raw materials—such as mineral oil products from California and Peru, lumber from the west coast of the United States and Canada, iron ore from Chile, sugar from the Philippines, nitrate from Chile. Of the 5,524 ocean-going vessels, 1,780 were of United States registry; 1,281 British; 667 Norwegian; 357 German; 300 Japanese; 285 Netherlands; 223 Danish; 182 Panamanian; 119 Swedish; 105 French; 94 Greek; 52 Italian and the remaining 79 to 14 other nationalities.

The following are the courses presented in the Balboa Junior College during the school year and the number of graduates in each course: Engineering, 6; commercial, 8; liberal arts, 8. These are two-year courses for which full credit is given by States towards a collegiate degree. There were 241 graduates from the two high schools in 1937–38.

In accordance with prescribed legislation and Presidential proclamations, new rules and toll rates are in effect for the Canal. In the new measurement rules, certain exemptions are made which have the effect of reducing tonnage on which tolls are paid as compared with the tonnage under rules in effect prior to March 1, 1938. Figures for the four months, March to June, indicate that the net tonnage, as newly determined, is about 7.5 per cent less than it would have been under the old rulings, and tolls were 3.5 per cent less. While initially the new rulings show a loss in revenue, future income will not be subject to reduction through interpretation of rules or by vessel construction or alteration as was the case under the former system.

BUREAU OF INSULAR AFFAIRS

The attention of this Bureau was directed principally to (1) work in connection with the Joint Trade Conference, (2) problems connected with the office of the United States High Commissioner, and (3) legislation affecting the Philippine Islands. This latter item involves the varied problems arising in the transition period prior to the change of relations prescribed in the Philippine Independence Act. These include the supervision of certain of the funds of the Commonwealth Government on deposit in the United States; the purchase of bonds for Philippine sinking funds; the arrangement of transportation for persons traveling to Manila on official business; matters relating to the training of Filipinos in colleges and service schools in the United States; and supplies for the Philippine Army.

MILITARY EDUCATION *

U. S. Military Academy, West Point, N.Y.—Nearly all of the additional construction work authorized under the First Deficiency Act of 1936 has been completed. The items included an academic building, an armory, a barracks, an addition to the gymnasium and fifty sets of officers' quarters. Additional appropriations now available provide for the purchase of land to insure an adequate water supply. From the June, 1938 class of cadets, 301 (including 1 Filipino) were graduated. A total of 1,651 candidates presented themselves for admission examinations on June 21, 1938. Of this number, 672 satisfactorily passed all requirements.

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* In each case, the name of the course presented at the various schools will be followed by a figure representing the number of graduates from such course.

Cavalry School, Fort Riley, Kan.—Officers: Regular, 30; Advanced Equitation, 9; National Guard and Reserve, 29; Post of Fort Riley, 7. Enlisted Men: Noncommissioned Officers, 27; Noncommissioned Officers Advanced Equitation, 13; Horseshoers, 49; Saddlers, 25; National Guard Noncommissioned Officers, 14; National Guard Sergeant Instructors, 4.

Field Artillery School, Fort Sill, Okla.—Officers: Regular, 67; Advanced Horsemanship, 4; Advanced Motors, 8; Advanced Communications, 8; Refresher, 9; National Guard and Reserve, 96. Enlisted Men: Motor Mechanics, 80; Horseshoers, 17; Saddlers, 19; Sergeant Instructors, 15; Communications, 63; Battery Mechanics, 15.

Coast Artillery School, Fort Monroe, Va.—Officers: Regular, 48 (including 2 Officers of the United States Marine Corps and 1 from the Philippine Army); Advanced Technical, 6; Special for National Guard and Reserve, 31. Enlisted Men: Master Gunners, 10; Electrical, 12; Radio, 3; Electrical Refresher, 18; Automotive Refresher, 9; National Guard Sergeants Refresher, 8; Special Clerical, 37; Special Radio Operators, 2; National Guard Special Radio, 11.

Engineer School, Fort Belvoir, Va.—Officers: Regular, 32; National Guard and Reserve, 27. Enlisted Men: Surveying, Drafting and Photographic Mapping, 20; Map Reproduction and Photography, 10; Electrical Motors and Water Purification, 14; Special for Regular Army Engineer Sergeant Instructors and National Guard Noncommissioned Officers, 11.

Signal School, Fort Monmouth, N.J.—Officers: National Guard (11) and Reserve (10)—21. Enlisted Men: Refresher for Sergeant Instructors, 6; National Guard Noncommissioned Officers, 6; Wire Communications, 45; Radio Communications, 61; Special Teletype, 7; Special Air Corps Radio Operators, 23; Overseas Replacements, 105 (77 radio; 28 wire); Domestic Replacements, 71 (55 radio; 16 wire).

Finance School, Holabird Quartermaster Depot, Baltimore.—This school is divided into two departments, (a) Department of Finance and Accounting, and (b) Department of Property Accounting and Property Auditing. There were 39 graduates from the resident course for the year, making a total since 1920 of 991. Home study courses requiring 62 hours of study graduated 152 students; special, for officers newly detailed to finance work, 7; special in money and property responsibility for the 1938 graduating class of the Military Academy, 25; correspondence course in property accounting and auditing, 2.

Infantry School, Fort Benning, Ga.—Officers: Regular, 141; Tank, 32; Refresher, 17; National Guard and Reserve, 189. Enlisted Men: Motor Mechanics, 64; Communications, 76; Refresher, 39; Horseshoers, 9.

Army Medical School, District of Columbia.—Officers: Basic, 54; Advanced, 3. Enlisted Men: X-ray Technicians (2 courses), 39; Laboratory Technicians (2 courses), 36.

Army Dental School, Washington, D.C.—Officers: Advanced, 4. Enlisted Men: Dental Mechanics (2 courses), 31.

Army Veterinary School, Washington, D.C.—Officers: Basic, 6. Enlisted Men: Technicians, 13.

Medical Field Service School, Carlisle Barracks, Penn.—Officers: Basic, 58; Advanced, 10. Enlisted Men: Noncommissioned Officers, 63.

School of Aviation Medicine, Randolph Field, Tex.—Officers: Basic, 11. Enlisted Men: Flight Surgeons' Assistant, 10.

Ordnance School, Massachusetts

Institute of Technology; Watertown Arsenal, Mass.; Picatinny Arsenal, N.J. and Aberdeen Proving Ground, Md.—Course I, covering theoretical training in sciences as applied to Ordnance Engineering, 10 Regular Army and 2 Philippine Army students. Course II, covering practical and theoretical training in ammunition, powder and explosives and the practical application of principles set forth in Course I, 9 students.

Ordnance Field Service School, Raritan Arsenal, N.J.—Officers: 1 National Guard and 3 Marine Corps. Enlisted Men: Noncommissioned Officers, 25; Specialists, 91.

Chemical Warfare School, Edgewood Arsenal, Md.—Basic, 34; Line and Staff Officers, 36; Navy Line Officers, 35; Field Officers, 59. A Chemical Warfare R.O.T.C. camp was conducted at Edgewood Arsenal from June 12 to July 23 with an enrollment of 120.

Quartermaster School, Philadelphia, Penn.—Officers, 40; National Guard and Reserve, 16. Warrant Officers and Enlisted Men, 63.

Quartermaster Motor Transport School, Camp Holabird, Baltimore.—Officers: Regular Army, 7; Philippine Army, 1; Chinese Army, 2; Marine Corps, 1. National Guard and Reserve, 29. Special Refresher, 5 composed of Regular Army Sergeant Instructors with National Guard.

Quartermaster Schools for Bakers and Cooks.—Officers, 41. Enlisted Men, 2,000.

Air Corps Primary Flying School, Randolph Field, Tex.—72 Regular Army Officers; 230 Flying Cadets; 8 foreign students, for a total of 310.

Air Corps Advanced Flying School, Kelly Field, San Antonio, Tex.—47 Regular Army Officers; 192 Flying Cadets; 7 foreign students, for a total of 246.

Air Corps Tactical School, Maxwell Field, Ala.—Air Corps Officers, 60; Officers from other branches of the Army, 8; Marine Corps Officers, 3; Naval Officers, 1, for a total of 72.

Air Corps Engineer School, Wright Field, Dayton, O.—Aero Engineering, 10.

Air Corps Technical School, Chanute Field, Rantoul, Ill.—For Officers, the following—Airplane Maintenance, 11; Communications 10; Communications (National Guard), 4; Airplane Maintenance Engineering, 1. For Enlisted Men, the following—Airplane Mechanics, 245; Machinists, 35; Armorers, 30, Parachute Riggers, 30; Photography, 34; Radio Repairers and Operators, 289; Welders-Sheet Metal Workers, 43; Air Corps Supply and Technical Clerks, 39; Bomb Sight Maintenance, 18; Carburetor Specialists, 54; Electrical Specialists, 20; Instrument Specialists, 62; Propeller Specialists, 42; Airplane Mechanics (National Guard), 3; Parachute Riggers (National Guard), 1; Radio Repairers and Operators (National Guard), 2; Parachute Riggers (Coast Guard), 7. The following Philippine enlisted students from the courses named—Airplane Mechanics, 3; Machinists, 1; Radio Repairers and Operators, 1; Welders-Sheet Metal Workers, 1; Carburetor Specialists, 1; Instrument Specialists, 1; Propeller Specialists, 1.

Air Corps Technical School, Lowry Field, Denver, Col.—For Enlisted Men: Armorers, 45; Photography, 41; Bomb Sight Maintenance, 13; Armorers (National Guard), 3; Photography (National Guard), 4; Photography (Marine Corps), 1; Armorers (Filipino), 1; Photography (Filipino), 1.

Air Corps Weather School, Patterson Field, O.—Enlisted Weather Forecasters, 28.

Command and General Staff School, Fort Leavenworth, Kan.—224 Regular Army and 2 Marine Corps Officers completed the regular course at this school; from special courses there were graduated 16 National Guard and 23 Reserve Corps Officers.

The Army Industrial College, Washington, D.C.—50 Regular Army; 11 Navy; and 1 Marine Corps, for a total of 62 Officers. To date 695 officers of the various service components have completed full courses at this school.

The Army War College, Fort Humphreys, D.C.—89 Regular; 2 Marine Corps; and 4 Navy Officers, for a total of 95. To date, 1,846 officers of the various service components have completed full courses at this school.

RESERVE OFFICERS' TRAINING CORPS

	Units	Enrollment
Senior	136	111,614
Junior	138	65,282

In the 58 Summer Training Camps there were enrolled 274 basic course students and 7,449 advanced course students. A total of 36 preparatory schools, including high schools, received governmental aid. In the second year advanced course, there was an enrollment of 6,364 and to 5,393 graduates from this course there were offered commissions in the Officers' Reserve Corps as Lieutenants, and 944 certificates were granted to graduates under the age of 21.

CITIZENS' MILITARY TRAINING CAMPS

There were 64,983 applicants; of these, 39,588 were ordered to camp; 37,846 reported; these provided an enrollment of 36,783; from this enrollment, 35,831 completed the training. There were 1,887 graduates from the Blue Course.

CIVILIAN EDUCATIONAL INSTITUTIONS

A total of 155 Commissioned Officers took courses of instructions at civilian institutions in the United States. They were divided among the several arms of the service as follows: Infantry, 2; Cavalry, 4; Field Artillery, 4; Coast Artillery, 2; Air Corps, 17; Corps of Engineers, 39; Signal Corps, 6; Judge Advocate General's Department, 20; Quartermaster Corps, 13; Finance Department, 2; Medical Department, 36; Ordnance Department, 6; Chemical Warfare Service, 2; Chaplains, 2. Included in the total of 155 are 46 Officers taking short courses varying in duration from 5 days to 6 months.

FOREIGN SCHOOLS

A total of 24 Commissioned Officers of the Regular Army attended foreign schools as students: Ecole de Guerre, France, 1; German General Staff School, 2; Surgery Course, Vienna, Austria, 1; Oxford University, England, 1. Language students—China and Japan, 11; France, 6; Mexico, 2.

FOREIGN OFFICERS

During the year, 17 Officers from foreign armies were in attendance in our schools or were attached to units of our Army, as follows: Air Corps Training Center, 4; Quartermaster Motor Transport School, 2; Medical Schools, 1; Field Artillery School, 2; Command and General Staff School, 2; Veterinary School, 1; School of Aviation Medicine, 1; attached to units, 4. This group represented the following countries: Brazil, 1; England, 1; China, 7; Japan, 2; Mexico, 4; and Siam, 2.

MILITARY DECORATIONS AND MEDALS AWARDED TO AMERICAN SOLDIERS

Decoration	Awards during Fiscal Year		Total to July 1, 1938
	Medal	Oak-Leaf Cluster	
Congressional medal of honor	0	0	1,825
Distinguished-service cross	10	0	6,488
Distinguished-service medal[1]	1	0	2,126
Silver star	475	59	11,640
Purple heart	2,818	158	66,426
Soldier's medal	38	0	231
Distinguished-flying cross	4	0	91
French fourragere	63	0	2,602

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[1] Because of cancellation of certain awards of this decoration, when awarded Distinguished-service crosses, the number of such awards has been reduced from that shown on our last issue.

Service Medal	Awards during Fiscal Year	Grand Total to July 1, 1938
Civil War campaign medal	256	2,470
Indian campaign medal	16	2,274
Spanish campaign medal	537	10,861
Philippine congressional medal	149	6,906
Spanish war service medal	1,559	27,719
Philippine campaign medal	911	38,996
Army of Cuban occupation medal	679	7,732
Porto Rican occupation medal	225	1,745
China campaign medal	37	1,902
Army of Cuban pacification medal	11	6,452
Mexican service medal	45	16,983
Mexican border service medal	214	40,943
Victory medal	3,952	1,310,253

YANGTZE SERVICE MEDAL

During the fiscal year, the War Department approved 16 applications for the issuance of this medal by the Major General, Commandant of the United States Marine Corps to Officers, Army Nurses, and Enlisted Men of the 31st United States Infantry and attached army personnel who served with the 4th United States Marines at Shanghai, China, during the period Feb. 5 to July 1, 1932. This makes a grand total to July 1, 1938 of 663 such applications approved.

INSPECTOR GENERAL'S DEPARTMENT

A total of 1,338 inspections were made, involving 365 posts, depots, arsenals and transports; 127 investigations of specific irregularities; and 846 involving disbursements.

JUDGE ADVOCATE GENERAL'S DEPARTMENT

The function of this Department is to operate the system of military justice and to act as legal adviser to the War Department and the entire military establishment. There were 2,699 persons tried by general court-martial, of whom 2,579 were convicted. Specifications tried by general court-martial represented 122 different offenses; desertion and absence without official leave predominated as offenses, although larceny ran close to absence without leave as an offense.

Contracts and Reservations: These sections of the office handle questions relative to the making or operation of contracts in which the War Department or any of its agencies is interested, and matters relating to military reservations and other real estate. Their work during the past year included the preparation of 991 formal written opinions.

Claims and Bonds: This section rendered 1,172 formal opinions on questions pertaining to contractors' bonds and claims in favor or against the Government.

Military Affairs Section: This office rendered 657 formal written opinions in cases affecting Army organization, administration, and Army personnel.

The Patent Section: In collaboration with the Department of Justice, this section defended 40 patent suits (31 of which claimed an aggregate of $226,000,000—the other 9 no specified amount) and prosecuted 94 patent applications in the United States Patent Office.

FINANCE DEPARTMENT

This agency pays the War Department's personnel and bills, makes collections due, and audits property accounts. The Chief of Finance, as War Department Budget Officer, is charged with preparing and submitting to the Bureau of the Budget all estimates of funds for the several branches and services required for inclusion in the annual War Department appropriations made by Congress. The total number of vouchers paid by the Finance Officer in the past fiscal year was 2,509,656 representing an aggregate disbursement of $775,907,904.26, which amount included expenditures in connection with the Civilian Conservation Corps. There were 2,545,821 commercial invoices handled, providing a means through discounts taken of saving $1,095,623.33. Since July 1, 1919, such savings total $10,071,867.02. All items of property purchased for the military establishment are audited by the Finance Department. This audit includes all supplies and equipment procured and accounted for by the Regular Army, R.O.T.C., Organized Reserves, C.M.T.C., and the National Guard, as well as Ordnance equipment loaned to civilian rifle clubs. In addition, the Finance Department is charged with the audit of all accounts carrying the property belonging to the Civilian Conservation Corps under the custody of the War Department. In the hand of Army agencies at present, excluding the value of grounds and buildings, there is well over two billions of dollars worth of property whose accountability is divided among 3,800 accounts, audited at least once annually.

On June 30, 1938, there were approximately 14,000 active soldier deposits in savings accounts and the amount deposited for the year totaled $1,644,154.19; the amount of interest paid by the Government on these deposits was $57,453.77. From June 30, 1873 to the present a total of $78,657,058.02 has been deposited through this Army channel, earning $3,978,356.67 in interest. The Act of June 28, 1937 authorized enrollees of the Civilian Conservation Corps to make deposits of pay in amounts specified by the Director with the Chief of Finance, to be repaid in case of an emergency or upon completion of or release from enrollment, and to receive the balance of their pay in cash monthly. Deposits made by enrollees of the Corps, to and including June 30, 1938, amounted to $2,024,220.57. On that date there were 13,030 active deposit accounts. The Finance Department has the duty of paying the Civilian Conservation Corps and the average number of members paid monthly since April 1933 was 322,052; the total amount paid allottees during the period April 1933 to June 30, 1938 was $538,971,217.79. During this period 30,501,007 Civilian Conservation Corps checks were drawn. Total disbursements pertaining to the Civilian Conservation Corps for the fiscal year 1938 amounted to $320,500,404.55.

ARMY LIBRARY SERVICE

The 151 permanent libraries located at Army posts, containing from 500 to 75,000 volumes each, together with the 159 traveling libraries, put into circulation nearly 2,000,000 books. Expenditures for this service amounted to $8,650 for books, $5,100 for salaries of librarians, and $444 for transportation of books.

MEDICAL CORPS

This Corps was increased during the year to bring its strength to 1,083 with further examinations scheduled to secure an additional 50 officers. Full time instructors with the medical R.O.T.C. units were increased from 5 to 23. There were 1,345 examinations for candidates for West Point. Of this number, 917 were found physically qualified. For Citizens' Military Training Camps, 33,331 examinations were made, from which there were 916 rejections. Under the provisions of the Thomason Act, 493 candidates presented themselves for physical examination; of this number, 34 were rejected. Professional attention given patients by the Medical Corps was as follows:

	Days of Treatment
Hospital and quarters, military..	1,935,585
Others, hospital...............	1,788,338
Number of out-patients........	1,490,193
Number of out-treatments......	2,716,483
Number of examinations.......	501,740
Number of vaccinations........	361,214

CORPS OF CHAPLAINS

The Regular Army Chaplains Corps was maintained at its full strength, 125, during the year. In the National Guard there were 236 and, from the Organized Reserves, there were 177 Chaplains on active duty with the Civilian Conservation Corps. In the C.C.C. there were conducted by Chaplains 50,038 services, with a total attendance of 4,621,495; they also baptized 137, conducted 122 funerals, and performed 81 marriage ceremonies. In the same field, civilians conducted 72,476 services with an attendance of 3,158,540. At Regular Army posts and stations, Chaplains conducted 2,174 funerals, baptized 1,644, and performed 726 marriages in addition to providing 22,039 services, attended by 1,787,094 persons. Civilians, in the same field, conducted 3,903 services, attended by 256,360 persons.

IX. DEFENSE AND ARMAMENT

ADJUTANT GENERAL'S DEPARTMENT

Army Extension courses made available 337 subcourses which necessitated the preparation and distribution of 4,233,000 lessons, solutions and texts. March 31 the enrollment was 98,057, an increase of 1,436 over last year. This total included 1,505 Regular Army Officers, 57,060 Reserve, and 11,950 National Guard. Enlisted Men enrolled were: Regular Army, 1,244; Reserve 996; National Guard, 18,240. Civilians to the number of 3,901 and 3,161 C.M.T.C. trainees also took the courses. A total of 64,709 students completed 160,618 subcourses, requiring 2,467,313 hours of instruction, all accomplished at an average cost per student of $1.55.

The World War Division received 761,331 additional documents for file covering records of discontinued commands, reports of physical examinations, medical cards, and maps. There are now on hand for demobilized, discontinued and inactive organizations approximately 114,532,183 documents. In these 261,016 searches were made and from them 1,410 requests for histories of World War military organizations were answered. Examination and classification of records is a continuing function of this division and, during the year, 2,068,235 documents were classified, indexed and filed. Fingerprint identifications to the number of 66,517 were received during the year; 746 for officers and 65,771 for enlisted men. There is now established a fingerprint file totaling 5,726,281 prints of which 389,717 were made prior to the World War; 3,961,467 during that war; and 1,375,097 since. Through

STRENGTH OF REGULAR ARMY BY CORPS AREAS

Corps Area, Department, or Country	July, 1937			June, 1938		
	Officers	Warrant Officers	Enlisted Men	Officers	Warrant Officers	Enlisted Men
First Corps Area	475	46	5,086	468	44	5,651
Second Corps Area [1]	1,266	97	15,762	1,251	88	15,629
Third Corps Area	1,938	109	14,959	1,880	101	15,259
Fourth Corps Area	1,285	60	17,028	1,236	56	16,538
Fifth Corps Area	647	52	7,076	644	52	7,745
Sixth Corps Area	595	46	7,091	581	47	7,103
Seventh Corps Area	858	51	9,887	839	51	9,851
Eighth Corps Area	1,657	100	27,910	1,689	91	27,149
Ninth Corps Area [2]	1,072	103	16,199	1,088	110	17,412
Total in continental United States	9,793	664	120,998	9,676	640	122,337
Hawaiian Department	664	49	16,987	784	58	20,935
Panama Canal Department [3]	403	34	12,793	439	38	14,465
Alaska	12	...	402	12	...	373
Puerto Rico	51	4	865	54	4	860
Philippine Department:						
Regular Army [4]	480	43	4,097	554	42	4,094
Philippine Scouts [5]	45	...	6,367	42	...	6,351
China	43	2	740	...	...	...
Retired Officers on active duty	8	...	...	8	...	...
Miscellaneous [6]	858	...	1,457	953	...	736
Grand total	12,357	796	164,706	12,522	782	170,151

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[1] Excludes Puerto Rico.

[2] Excludes Alaska.

[3] Includes officers on duty with Panama civil government.

[4] Includes officers on duty with the military adviser to the commonwealth government of the Philippine Islands.

[5] Includes officers of the Philippine Scouts attending schools or on leave in continental United States.

[6] Includes military attaches, personnel on leave and enroute to and from overseas garrisons, on special detached duty, on duty with United States District Engineer offices.

fingerprint means of identification, 297 individuals were identified as being deserters, dishonorably discharged men or other delinquents. Verifications of identity were made in the case of 30,994 applicants for certificates in lieu of lost or destroyed discharge certificates and the fingerprints of 14,737 individuals submitted by various Federal and state agencies were checked with the result that 7,461 were found to have had Army service. Of 1,574 fingerprints of deceased persons submitted, 516 were identified as having had Army service. Correspondence during the year aggregated 2,450,987 pieces of mail received; the largest number received for a single month was 239,877 and the single-day maximum was 20,455.

The Information Section received 60,546 telephone inquiries and 10,698 personal calls concerning 50,080 individuals and 21,164 of a varied nature.

During the year, 23,902 programs were shown at War Department theaters with a total attendance of 10,106,607. New theaters were constructed at Fort Bliss, Texas; Hamilton Field, California; Fort Barrancas, Florida; and Fort McKinley, Maine. Thirteen Army theaters have now been equipped with complete air-conditioning systems.

FUTURE PROBLEMS

Looking into the future, the Quartermaster Corps is concerned with solving the problem of a feasible method for procurement of motor vehicles. This method to be satisfactory must provide a degree of standardization and control which will also insure practical maintenance of such vehicles in active theaters of war.

The Field Artillery will be concerned immediately with the development and improvement of gun carriages, time fuses for high explosive shells, antitank guns, radio equipment, motor transport for heavy artillery, rapid methods of fire adjustment by aerial observation, firing maps and map substitutes, and new tables of organization to meet the new set-ups for combat units.

In the Signal Corps, there are under study: Further development of plans for communication systems of extensive aircraft warning nets which will be extended two hundred miles or more in front of areas to be protected from hostile air attack; development of tactics and technique of radio intelligence; adaptation of teletype, facsimile and other modern communications methods to field use by Army units; adaptation of power-driven earth borers and pole setters to semi-permanent pole line construction within forward combat areas; procurement and issue of recently standardized communications material to all arms of the service; installation of high speed automatic radio equipment at additional stations of the War Department Radio Net; increased means of production of motion picture training films, primarily through organizing a second Training Film Field Unit with headquarters at Wright Field, Ohio.

The Infantry arm has as its immediate problem a general reorganization to meet modern conditions. Materials of war have profited by modern inventive methods but the Infantry has the same general organization it had at the close of the World War. It now becomes necessary to mould Infantry organizations so as to obtain maximum results from new weapons such as the semi-automatic rifle, the improved automatic rifle, the 60 mm. and 81 mm. mortars, and the new medium tank.

Popular fancy seems to have been caught by the term "streamlining" as applied to the newly proposed Infantry regimental organization. So long as the Infantry continues in the minds of military leaders to be regarded as the "Queen of Battle," the flexibility of its regiments will be the measure of the efficiency of a Division as a whole. This streamlined infantry regiment will be smaller but far more mobile and possessed of greater fire power than its World War predecessor. This reconstruction, therefore, is thoroughly in keeping with the modernization of our national defense in all its phases. Its progress will depend largely upon the development of motor vehicles and semi-automatic rifles. Three new regiments will be set up for the purpose of undergoing a year of field tests in Texas.

At full war strength the new regiment will have 2,411 officers and men, compared with the World War regiment of 3,742 and the present war strength regiment of 3,009. Instead of the 3,200 Springfield rifles of the World War period, the new regiment is to be armed with 1,492 semi-automatic rifles giving three times the fire power of the World War regiment. It will also be equipped with heavier and more numerous machine guns and auxiliary weapons. Horses and mules of the World War regiment will be replaced by motor vehicles and Infantry squads will be composed of twelve rather than eight men. These drastic changes are adjudged as sound and necessary. The studies upon which they are based take into account experiences of the Italians in Ethiopia and the Japanese in Manchukuo and China, and indicate changes in world affairs and scientific progress towards which our Army displays an attitude of commendable alertness.

ADMINISTRATION OF VETERANS AFFAIRS

By Frank T. Hines

Brigadier General U. S. A.; Administrator, Veterans Affairs

ORGANIZATION

As of June 30, 1938, the organization of the Veterans Administration consisted of the following officers: Frank T. Hines, Administrator of Veterans Affairs; Adelbert D. Hiller, Executive Assistant to the Administrator; Harold W. Breining, Assistant Administrator in charge of finance and insurance; Omer W. Clark, Assistant Administrator in charge of compensation and pensions; George E. Ijams, Assistant Administrator in charge of medical and domiciliary care and treatment, construction and supplies; James T. Brady, Solicitor, in charge of legal activities; and Robert L. Jarnagin, Chairman of the Board of Veterans' Appeals.

WAR OF 1812

The last veteran pensioner of the War of 1812 was Hiram Cronk, who died May 13, 1905, at Ava, N. Y., aged 105 years. The last widow pensioner of this war was Mrs. Caroline King, widow of Darius King, private, Stephen's Company, New York Militia. Mrs. King died June 28, 1938 at Cheektowaga, N. Y., aged 89 years. As of June 30, 1938, the sole remaining pensioner on the roll of the War of 1812 was Mrs. Esther Ann Hill Morgan of Independence, Ore., a dependent daughter of John Hill, deceased, private, who served in Clark's and McCumber's Companies, New York. Mrs. Morgan was born March 9, 1857 and receives $20 a month by a special act of Congress.

MEXICAN WAR

The War with Mexico ended May 30, 1848. The last veteran pensioner of this war was Owen Thomas Edgar, an apprentice on board the U. S. S. *Potomac, Experiment, Pennsylvania* and *Alleghany,* U. S. Navy, who died Sept. 3, 1929 at the John Dickson Home, Washington, D. C., aged 98 years. As of June 30, 1938, there were 195 widows of Mexican War veterans on the pension rolls. Twenty-six widows died during each of the fiscal years 1937 and 1938. During the fiscal year 1938, the disbursements for widows of Mexican War veterans totaled $116,687.99 as compared with $132,776.34 during the fiscal year 1937 and $154,135.42 during the fiscal year 1936.

INDIAN WARS

Living Veterans.—On June 30, 1938, pensions were being paid to 2,814 veterans on account of Indian

War service, and the disbursements for this purpose amounted to $1,889,161.99 during the fiscal year 1938. This represented a decrease of 305 in the number of veterans on the roll from June 30, 1937 and an increase of $77,625.32 in disbursements as compared with the previous fiscal year. This increase was due to Public 355, 75th Congress, dated Aug. 25, 1937, which provided an increased rate of pay in 2,729 cases. The average age of veterans of Indian Wars receiving pensions at the close of the fiscal year 1938 was 78.

Deceased Veterans.—The dependents of 4,426 deceased veterans of Indian Wars were in receipt of pensions on June 30, 1938, and to this class $1,628,059.30 was paid during the fiscal year 1938. This represented a decrease of 164 in the number of cases on June 30, 1937, and a decrease in disbursements of $53,847.36 as compared with the disbursements of the previous fiscal year. The number of dependents receiving pensions as of June 30, 1938 totaled 4,463, classified as follows: widows, 4,383; children, 73; others, 7.

CIVIL WAR

Living Veterans.—Out of a total of 2,213,365 that served in this war, which terminated 73 years ago, pensions were being paid to 5,048 veterans on June 30, 1938, representing a decrease of 1,983 in the number of veterans on June 30, 1937. The disbursements for pensions to veterans of the Civil War during the fiscal year 1938 totaled $6,448,253.46 as compared with $8,967,519.20 for the previous fiscal year, a reduction of $2,519,265.74. The average age of Civil War veterans receiving pensions as of June 30, 1938, was 93.

Deceased Veterans.—On June 30, 1938, pensions were being paid to the dependents of 66,873 deceased veterans of the Civil War, as compared with 76,131 as of June 30, 1937, a decrease of 9,258. The disbursements to these dependents during the fiscal year 1938 totaled $32,784,881.19 as compared with $37,628,438.76 for the previous fiscal year, a decrease of $4,843,557.57. The peak in the number on the pension roll was reached in 1912, when the dependents of 304,373 deceased veterans of the Civil War were receiving pensions. As of June 30, 1938 pensions were being paid to 64,507 widows, 1,151 children, and 1,434 other beneficiaries. There were 8,651 cases in which $30 per month was being paid, 50,243 cases in which the beneficiary was in receipt of $40 per month, as provided by law for widows of the attained age of 70 years, and 1,122 cases in which $50 per month was being paid as authorized by law for widows who were wives of soldiers during their service in the Civil War. There were 5,640 cases in which dependents were in receipt of pensions under special acts of Congress; and 1,217 cases in which the dependents were being paid under the general laws because of the death of the veteran from causes due to military service.

SPANISH AMERICAN WAR

Living Veterans.—The number of veterans on the roll at the close of the fiscal year 1938 was 170,755 as compared with 175,361 on June 30, 1937, a decrease of 4,606, and 168,680 veterans were receiving pensions for disabilities of nonservice origin or for age, 1,907 for conditions determined to be the result of service, and 168 were special act cases. The disbursements during the fiscal year 1938 totaled $98,850,424.84 as compared with $96,618,456.10 during the fiscal year 1937, an increase of $2,231,968.74. A study of the age of all Spanish American War veterans shows that 70 per cent are between 55 and 65 years of age.

Deceased Veterans.—On June 30, 1938, pensions were being paid to the dependents of 53,345 deceased veterans of the Spanish American War as compared with 50,292 on June 30, 1937, an increase of 3,053. These pensions were being paid to 50,570 widows, 9,586 children and 521 parents, or a total of 60,677 dependents. To these beneficiaries $19,332,593.49 was paid during the fiscal year 1938 as compared with $18,305,668.73 during the fiscal year 1937, an increase of $1,026,924.76. The increase in the number of beneficiaries and in the disbursements to them was due to the increasing death rate among veterans and to the restoration of remarried widows to their former rights.

REGULAR ESTABLISHMENT

Living Veterans.—During the fiscal year 1938, the number of veterans on the pension roll as a result of disability incurred in service in time of peace increased from 33,036 to 33,062. Disbursements to this class of veterans during the year totaled $8,868,785.83 as compared with $8,947,027.17 during the fiscal year 1937.

Deceased Veterans.—On June 30, 1938, pensions were being paid to the dependents of 8,725 veterans whose death was determined to be the result of disease or injury originating in line of duty in the military or naval service in time of peace. This represents an increase in the pension roll of 616 cases for the fiscal year 1938. The number of dependents as of June 30, 1938 totaled 13,822, divided as follows: widows, 4,767; children, 5,036; parents, 4,019. During the fiscal year 1938 $2,645,831.53 was paid to dependents of deceased peace time veterans, an increase of $178,754.78 over the amount paid during the fiscal year 1937.

WORLD WAR

Service Connection.—Compensation was being paid on June 30, 1938 to 340,590 veterans suffering from disabilities directly or presumptively connected with service during the World War, an increase of 4,062 in the number on the roll June 30, 1937. Of the 340,590 veterans on the roll June 30, 1938, 250,668 were receiving payments under Public No. 141, 73rd Congress, approved March 28, 1934, and 89,922 under Public 2, 73rd Congress, approved March 20, 1933. There were 226,855 of the group under Public 141 receiving full payments, 21,196 receiving 75 per cent of World War rates as presumptive cases, and 2,617 cases in which part of the payment was made at the full rate and part at 75 per cent of the rate, depending on the service connection of two or more disabilities. The disbursements during the fiscal year 1938 for service connected veterans of the World War totaled $166,875,363.36 as compared with $166,417,519.36 during the fiscal year 1937.

An analysis of the major disabilities for which compensation was being paid to veterans of the World War discloses that neuropsychiatric diseases are the disabling cause in 19.64 per cent of the awards, tuberculosis in 16.56 per cent, and general medical and surgical conditions in 63.80 per cent. The average monthly payments by types based upon the value of awards at the close of the fiscal year 1938 were as follows: neuropsychiatric, $50.90; tuberculosis, $53.67; and general medical and surgical, $38.28. The average monthly payments for all types was $40.12. In 42,715 cases in which the veteran was rated on a temporary basis, additional compensation was being paid on account of dependents at an average of $7.63 per case per month. On June 30, 1938 there were 2,740 disabled veterans to whom compensation was being paid who reside outside the continental limits of the United States.

Non Service Connection.—At the close of the fiscal year 1938 there were 46,748 veterans of the World War receiving pensions for disabilities determined to be not in any way the result of their military or naval service. The present rate for this group is $30 per month, unless reduced to $6 per month by reason of receiving institutional care at Government expense and having no dependents. The disbursements for this group of veterans during the fiscal year 1938 totaled $15,227,497.81 as compared with $13,758,823.06 during the previous fiscal year. Of those on the roll, 465, or 0.99 per cent, were over 68 years of age; 1,023, or 2.19 per cent, over 62 years of age; and 2,524, or 5.40 per cent, over 55 years of age.

Emergency Officers.—On June 30, 1938, there were 1,854 emergency officers of the World War entitled to retirement pay as compared with 1,865 on June 30, 1937. Of the 1,854 officers on the roll at the close of the fiscal year, 1,818 were receiving full payment. In the remaining 36 cases, there was a complete forfeiture of retirement pay in 23 cases and a partial forfeiture in 13. Eighteen of the 23 complete forfeitures were due to the application of section 212 of Public 212, 73rd Congress, approved June 30, 1932, which provided that in case the salary of any retired officer (except those whose disability was incurred in combat with an enemy of the United States) in the employ of the Federal Government together with the retirement pay exceeds $3,000 per annum, the retirement pay should be reduced or discontinued so that the sum of the two shall not exceed $3,000. The other five complete forfeitures were for the following reasons: active duty in the National Guard, three; incompetent-estate over $1,500, two. Of the 13 partial forfeitures, seven were due to the application of section 212 of Public 212 hereinbefore mentioned, and six because the beneficiaries were receiving retirement pay as enlisted men of the Regular Army. The disbursements for emergency officers' retirement pay during the fiscal year 1938 totaled $3,117,229.96 as compared with $3,138,955.75 during the previous fiscal year. Of the 1,854 officers entitled to retirement pay, 1,818 served in the Army, 24 in the Navy, and 12 in the Marine Corps.

Deceased Veterans.—Service Connection.—On June 30, 1938, compensation was being paid to the dependents of 95,118 veterans who died in service or as a result of diseases or injuries incurred either directly or presumptively in service during the World War, as compared with 99,032 on June 31, 1937, a decrease of 3,914 cases. The disbursements for this purpose totaled $42.359,416.32 during the fiscal year 1938, an increase of $8,057,891.62 as compared with the amount paid during the fiscal year 1937. This increase in disbursements was due to the enactment of Public 304, 75th Congress, which increased rates payable to certain widows and dependent parents and liberalized the definition of the term "widow". The total dependents of the 95,118 deceased veterans as of June 30. 1938 were classified as follows: 28,135 widows, 37,378 children, and 78,779 parents.

An analysis of the principal causes of death of veterans who died as a result of service in the World War and whose dependents are now receiving benefits discloses that 31 per cent died from tuberculosis, 26 per cent from injuries, principally wounds in action, and 23 per cent from diseases of the respiratory system other than tuberculosis. A further study reveals that in 35 per cent of the death cases as of June 30, 1938, death occurred prior to July 2, 1921, the official ending date of the World War. On June 30, 1938, service connected death compensation payments were being made in 5,845 cases where the dependents reside in United States possessions and foreign countries, the annual value of these awards being $2,732,100.

Non Service Connection.—Public 484, 73rd Congress, approved June 28, 1934, authorized the payment of compensation to the widows and children of World War veterans who died from disabilities of non-service origin while receiving compensation for a service connected disability rated 30 per cent or more and where death was not due to misconduct. This act was amended June 29, 1936, by Public 844, 74th Congress, which included the presumptive cases and eliminated the misconduct clause. On Aug. 16, 1937, Section 1, Public 304, 75th Congress, reduced the percentage of service connected disability from 30 to 20 per cent as pertaining to widows' claims, providing a child was born of the marriage. and to minor children in case of the death or remarriage of the widow. This section was repealed May 13, 1938 by Section 4, Public 514, 75th Congress, which reduced the rate of service connected disability from 20 to 10 per cent, provided marriage to the veteran occurred prior to the date of this act. On June 30, 1938, payments for this type of benefit were being made to the dependents of 7,422 deceased veterans. These dependents were classified as follows: 6,024 widows. 12,419 children. During the fiscal year 1938. $2.623.668.90 was paid out for this class of beneficiaries as compared with $1,851,982.97 during the fiscal year 1937.

HONOR ROLL—YELLOW FEVER EXPERIMENTS

An act was approved Feb. 28, 1929 (Public 868, 70th Congress) entitled "An act to recognize the high public service rendered by Major Walter Reed and those associated with him in the discovery of the cause and means of transmission of yellow fever". This act, in addition to establishing a roll of honor and granting medals, etc., authorized a monthly payment of $125 each to designated persons during the remainder of their lives, in lieu of pensions. As of June 30, 1938, 10 persons were receiving the above payment. A study of the trend from March 31, 1935 to June 30, 1938 shows a loss of only three in the 38-month period. During the fiscal year 1938, the disbursements for this type of benefit totaled $15,000 as compared with $15,875 during the fiscal year 1937.

SUMMARY

The following table shows the number of living and deceased veterans on the rolls as of June 30, 1938, and the total disbursements during the fiscal year 1938, by wars, including Yellow Fever Honor Roll:

Wars	On Roll June 30	Disbursements Fiscal Year 1938
Grand total	836,963	$402,783,695.97
Living veterans	600,858	301,291,717.25
Deceased veterans	236,105	101,491,978.72
War of 1812		
Deceased veterans	1	840.00
Mexican War		
Deceased veterans	195	116,687.99
Indian Wars	7,240	3,517,221.29
Living veterans	2,814	1,889,161.99
Deceased veterans	4,426	1,628,059.30
Civil War	71,921	39,233,134.65
Living veterans	5,048	6,448,253.46
Deceased veterans	66,873	32,784,881.19
Spanish American War	224,100	118,183,018.33
Living veterans	170,755	98,850,424.84
Deceased veterans	53,345	19,332,593.49
Regular Establishment	41,787	11,514,617.36
Living veterans	33,062	8,868,785.83
Deceased veterans	8,725	2,645,831.53
World War	491,709	230,203,176.35
Living veterans	389,169	185,220,091.13
Service connected	340,590	166,875,363.36
Non service connected	46,748	15,227,497.81
Emergency officers	1,831	3,117,229.96
Deceased veterans	102,540	44,983,085.22
Service connected	95,118	42,359,416.32
Non service connected	7,422	2,623,668.90
Honor Roll—yellow fever		
Living veterans	10	15,000.00

HOSPITALIZATION

Under Treatment.—On June 30, 1938, the hospital load of the Veterans' Administration was 50,670 United States veterans, 37 veterans of countries allied with the United States in the World War, 120 employees of the Civilian Conservation Corps and Works Progress Administration, and 72 miscellaneous beneficiaries. Approximately 9.64 per cent of the patients were under treatment for tuberculosis; 57.54 per cent for neuropsychiatric diseases; and 32.82 per cent for general medical and surgical conditions.

An analysis of the 50,670 United States veterans remaining in hospitals shows the following: World War, 45,496; Spanish American War, 2,638; Civil War, 62; Regular Establishment, 2,384; and other expeditions and occupations, 90. Of this group, 47,285 veterans were in facilities controlled by the Veterans' Administration, 2,512 in other government hospitals, 873 in state or civil institutions. Over 63 per cent of these patients are receiving treatment in facilities located in the State of their reported home address. As of June 30, 1938, 76.32 per cent of the veterans under hospitalization were receiving treatment for disabilities not of service origin and 23.68 per cent were under treatment for diseases or injuries determined to be of service origin.

Admissions.—During the fiscal year 1938, 152,966 admissions of United States veterans were made to hospitals by the Veterans' Administration, an increase of more than 8 per cent over 1937. Seventy-three per cent of all admissions since June 7, 1924 were for nonservice connected disabilities. During the fiscal year 1938, 10,989 admissions were authorized for the observation or treatment of pulmonary tuberculosis, 10,750 for psychotic or mental diseases, 12,686 for neurological disorders, and 118,541 for general medical and surgical conditions. In addition to the United States veterans, there were 1,395 admissions of other patients, including 119 allied veterans, 947 employees of the Civilian Conservation Corps and Works Progress Administration and 329 miscellaneous beneficiaries.

Discharges.—During the fiscal year 1938, 202,081 patients were under hospitalization, of whom 200,626 were United States veterans. Of the United States veterans treated, 149,956 were discharged after an average of 76.9 in-patient days. Approximately 78 per cent of the United States veterans discharged during the fiscal year had been under treatment for general medical and surgical conditions, 15 per cent for neuropsychiatric diseases, and 7 per cent for tuberculosis.

Deaths.—During the fiscal year 1938, deaths in hospitals totaled 10,117 or 6.75 per cent of the discharges. Of this number, 6,620 or 65.44 per cent occurred among patients under treatment for general conditions; 1,979, or 19.56 per cent, for pulmonary tuberculosis; and 1,518 or 15 per cent, for neuropsychiatric diseases. Of the 6,620 deaths among general patients, approximately 36 per cent were caused by diseases of the circulatory system, including organic heart disease, and 33.5 per cent by malignant tumors and diseases of the digestive system.

DOMICILIARY CARE

Remaining.—On June 30, 1938, the veteran population reported as present in domiciliary status in facilities under control and jurisdiction of the Veterans' Administration totaled 14,254, divided as to sex and color as follows: 12,665 white males, 54 white females, and 1,535 colored males. The total membership classified by wars shows that 0.03 per cent were Civil War veterans; 6.11 per cent Spanish American War veterans; 89.46 per cent were World War veterans; 0.18 per cent were veterans of other wars, expeditions and occupations; and 4.22 per cent were of peace time service in the regular establishment. Of 14,254 veterans remaining under domiciliary care, 10,104 were disabled by general medical and surgical conditions, 3,844 by neuropsychiatric disease, and 306 by tuberculosis.

In conformity with the act of Aug. 27, 1888, the Federal Government is required to reimburse state and territorial homes for disabled volunteer soldiers at the rate of $120 per year for each person domiciled therein who is eligible for similar care in facilities controlled by the Veterans' Administration. During the fiscal year 1938 an average of 5,622 veterans were cared for in these homes, thereby creating an obligation of approximately $674,640 on the part of the Federal Government.

Admissions and Discharges.—During the fiscal year 1938, 28,585 veterans were admitted for domiciliary care and 26,276 veterans were discharged after an average period of 4 2/5 months.

PHYSICAL EXAMINATIONS AND OUT-PATIENT TREATMENTS

During the fiscal year ended June 30, 1938, the field facilities of the

Veterans' Administration made a total of 1,128,587 physical examinations for out-patient purposes, an increase of 49,199 over the number accomplished during the preceding fiscal year. Of the examinations made during the fiscal year 1938, 1,110,812 or 98 per cent were medical, and 17,775 or 2 per cent were dental.

The number of treatments made during the fiscal year 1938 totaled 994,968, which number represents an increase of 99,760 over the experience during the preceding fiscal year. Of the total treatments, 90 per cent were medical and 10 per cent were dental. During the fiscal year there was authorized for expenditure the sum of approximately $400,000 for the purchase of orthopedic and prosthetic appliances and repairs thereto. The largest single item of expenditure was $122,000 for the purchase of artificial legs.

DENTAL RELIEF

The value of dental service rendered to beneficiaries in clinics of the Veterans' Administration during the fiscal year 1938, computed on a fee basis, was $1,736,920, as compared with $1,639,505 for the fiscal year 1937. The number of beneficiaries that received dental treatment in clinics during the fiscal year 1938 totaled 66,897 as compared with 59,795 during the preceding fiscal year. Of the beneficiaries furnished dental treatment during the fiscal year 1938, 63,553 were in receipt of hospitalization or domiciliary care at the time service was rendered.

INSURANCE

Government Life (Converted) Insurance.—At the close of the fiscal year 1938, there were 602,614 Government Life (converted) insurance policies in force, aggregating $2,569,240,190 of insurance. During the fiscal year, 28,335 new policies were issued. Premiums from Government life insurance, interest from policy loans, interest from all investments, etc. are deposited to the credit of the Government life insurance fund. from which are paid claims on account of total permanent disability and death, dividends and refunds. This fund is a trust fund kept by the United States Treasury separate and apart from other Government monies and is not available for the payment of administrative costs of operating the insurance activity.

Term and Automatic Insurance.—On June 30, 1938, monthly installments of term insurance were being paid to 11,582 permanently and totally disabled veterans and to the beneficiaries of 106,392 deceased veterans. An analysis of the disabilities for which term insurance was being paid on June 30, 1938 showed 49.91 per cent of the awards were made for neuropsychiatric diseases, 24.10 per cent for tuberculosis, and 25.99 per cent for general medical and surgical conditions. Payments of automatic

Salaries and expense	[2] $ 85,732,218.47
State and territorial homes	[1] − 45.66
Medical, hospital and domiciliary services	[1] − 98.47
Adjusted Compensation Payment Act 1933 (administrative expense)	20,074.66
Printing and binding	128,369.72
Hospital and Domiciliary facilities and services, Veterans' Administration	9,311,252.65
Army and Navy pensions	402,783,695.97
Military and Naval Insurance	82,521,520.30
United States Government life insurance fund	[3] 31,635,613.35
National Industrial Recovery Act, Veterans' Administration 1933–39	35,607.12
Adjusted service and dependent pay	1,352,099.16
Adjusted service certificate fund	13,837,588.33
Vocational rehabilitation	[1] − 1,084.69
Allotments and allowances	[1] − 1,309.11
General Post fund	192,438.01
Funds due incompetent beneficiaries	117,846.38
Personal funds of patients, Veterans' Administration	2,123,823.93
Miscellaneous	40,111.61
Total	$629,829,721.73

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[1] Credits.

[2] Includes net disbursements of $1,345,000 from allotments made to other Government agencies for the care and treatment of Veterans' Administration beneficiaries.

[3] Includes encumbrances.

insurance (provided for those who were permanently and totally disabled or who died within 120 days after entering service and before making application for term insurance) are being made to 289 veterans and to the beneficiaries of 1,544 deceased veterans.

FINANCE

During the fiscal year 1938, the total net disbursements made by the Veterans' Administration from all appropriations and trust funds (including adjustments on lapsed appropriations) were as set down in the table on preceding page.

WATERWAYS AND HARBORS

By Julian L. Schley

Major General, U. S. A.; Chief of Engineers, War Department

INLAND WATERWAYS

The principal inland navigable waterways are Great Lakes, New York State Canal system, Mississippi River system; rivers of the Atlantic Coast, and Intracoastal Waterway system connecting these rivers; Intracoastal Waterway from St. Marks River in Florida, *via* Mobile, New Orleans, and Galveston, down the Texas Coast to Corpus Christi, connecting with streams of southern Georgia, Alabama, Mississippi, Louisiana, and Texas, and with the Mississippi River system; San Joaquin-Sacramento system in California; the Columbia system in the northwest; and the smaller Pacific Coast rivers. The Great Lakes have natural deep water except in the connecting channels, these channels having been artificially deepened where necessary to accommodate a draft of 24 feet; and the Welland Ship Canal joining Lakes Erie and Ontario, as improved by Canada, has a permissible draft of 23.5 feet. The more important harbors on the Great Lakes accommodate drafts of 24 feet. The 12-foot New York State Barge Canal is being deepened to 14 feet between the Hudson River and Lake Ontario at Oswego. The Atlantic Intracoastal Waterway system between Trenton, N. J., and Wilmington, N. C. has been completed to project depths of not less than 12 feet, and thence to Key Largo, Fla., 63 miles below Miami, with project depths of from 7 to 10 feet. Deepening of the waterway to 12 feet between Wilmington, N. C., and St. Johns River, Fla., has been authorized by Congress. Dredging in Cape Cod Canal to secure a channel width of not less than 500 feet and a depth of 32 feet at mean low water is actively in progress, it being anticipated that this outstanding project will be substantially completed in 1939. The Chesapeake and Delaware Canal has been dredged to 27 feet. On the Gulf Coast, projects have been adopted to provide a protected Intracoastal Waterway not less than 9 feet in depth between St. Marks River, Fla., and Corpus Christi, Tex., more than 1,000 miles, and this depth is available from Apalachicola to Galveston. The Mississippi has a 9-foot depth from Baton Rouge to St. Louis, and work is well advanced by the construction of a series of 26 locks and dams, to secure a 9-foot channel thence to Minneapolis, it being anticipated that the project will be fully available in 1939.

NEW WATERWAY PROJECTS

At the close of the fiscal year 1938, there were approximately 1,000 authorized river and harbor projects in force, active operations having been carried out on 332 of these projects during the year. There are also some 400 flood control projects in force. Total funds made available to the Army Engineers from the several emergency appropriations for application to river and harbor and flood control projects to Nov. 15, 1938, have amounted to $520.519,967. These funds were in addition to annual appropriations by Congress for the maintenance of existing river and harbor works, and for flood control on the Mississippi and Sacramento Rivers, which for the 1938 fiscal year totalled $192,556,377; the expenditures during the year provided direct employment to approximately 64,000 persons and indirect employment to many thousands more.

GREAT LAKES IMPROVEMENTS

In addition to maintenance of previously improved channels, the improvement of Great Lakes harbors and channels was carried out during 1938 at Huron Harbor, Lorain Harbor, Fairport Harbor, Conneaut Harbor, Black Rock Channel and Tonawanda Harbor, Oswego Harbor, St. Marys River, Detroit River, Waukegan Harbor, Calumet Harbor and River, Lake Calumet, Menominee Harbor and River, Kewaunee Harbor, Manitowoc Harbor, Sheboygan Harbor, South Haven Harbor, Holland Harbor, Muskegon Harbor, Keweenaw Waterway, and Presque Isle Harbor.

MISSISSIPPI RIVER SYSTEM

The Mississippi River navigation system comprises several thousand miles of connected channels, the improvement of which has involved the construction of locks and dams, contraction dikes and revetments to regulate and stabilize channel alignments, reservoirs, and periodic dredging through recurring river bars.

The authorized channel depths at ordinary low water in the Mississippi River and its principal tributaries, upon which improvement has been completed or is in progress and well advanced are: Mississippi River, 35 feet from the Gulf of Mexico to Baton Rouge, La., thence 9 feet to St. Paul and Minneapolis, Minn.; Missouri River, 6 feet to Sioux City, Iowa; Ohio River, 9 feet to Pittsburgh, Pa.; Illinois River, 9 feet to Chicago, Ill.; Tennessee River, 9 feet to Knoxville, Tenn.; Cumberland River, 6 feet to a point some 320 miles above Nashville, Tenn.; Monongahela River, 7 to 10 feet to Fairmont, W. Va.; Allegheny River, 9 feet to East Brady, Pa.; Kanawha River, 9 feet to Kanawha Falls, W. Va.; Little Kanawha River, 4 feet to Creston, W. Va.; Muskingum River, 4.5 feet to vicinity of Dresden, Ohio; Big Sandy River, 6 feet above Louisa, Ky.; Kentucky River, 6 feet to Beattyville, Ky.; Green and Barren Rivers, 4 feet to Bowling Green, Ky.; Arkansas River, clearing of channel in lower 465 miles; Ouchita River, 6.5 feet to Camden, Ark.; White River, clearing channel of obstructions to Batesville, Ark.; Red River, clearing of obstructions to Fulton, Ark.; Black River, clearing of obstructions to Poplar Bluff, Ark.; Current River, clearing of obstructions to Van Buren, Mo.; St. Francis River, clearing of obstructions to Marked Tree, Ark.; and Wolf River, 9 feet at Memphis, Tenn.

The Fort Peck Dam on the Missouri River in Montana is also included in the Mississippi system. Construction of this dam, of unprecedented dimensions, is well advanced and when completed will create a storage reservoir of some 20,000,000 acre feet capacity, thus permitting control and regulation of flow for navigation and other purposes. The impoundment of water in the reservoir was commenced during the year, and plans for facilities to develop hydroelectric power, as authorized by Congress, are receiving study.

SAN JOAQUIN-SACRAMENTO AND COLUMBIA SYSTEMS

The improved channels in Suisun Bay, San Joaquin and Sacramento Rivers, tributary to San Francisco Bay, now provide depths of 30 feet to Stockton on the San Joaquin and 10 feet on the Sacramento to the City of Sacramento. These channels, including improved channels in streams tributary thereto, now support an annual waterborne commerce in excess of 4,500,000 tons.

Improvement of Columbia River for navigation to and above Portland, Ore., and Vancouver, Wash., has involved, in addition to dredging and channel contraction works, the construction of jetties, monumental in character, at the entrance from the Pacific Ocean, and construction of Bonneville Dam, 42 miles east of Portland. The jetties as completed more than 20 years ago have proved eminently successful in maintaining a safe channel through the exposed bar for deep-draft commerce. Bonneville Dam, completed during the year, in combination with dredging now in progress in the river between Vancouver and the dam, will provide for extension of deep-draft navigation to The Dalles, Ore., 45 miles above Bonneville and 188 miles above the mouth of the river. The Columbia River projects provide for depths of not less than 40 feet at the mouth, 35 feet to Portland, 30 feet to Vancouver, 27 feet to Bonneville, and thence to The Dalles, and seven feet above The Dalles to Wallula. The ship lock, forming a part of the Bonneville Dam, has an unprecedented lift of 62½ feet, while the facilities for the safe passage of salmon and other migratory fish to and from the spawning grounds in the river above the dam constitute an outstanding departure in fishway design. The initial installation of two main generating units of 43,200 kilowatts capacity each in the dam has been completed, and preparations are being made for two additional generators of 54,000 kilowatts capacity each, the installation of which has been requested by the Bonneville Power Administrator under authority contained in Public 329, 75th Congress.

NAVIGATION DAMS

Apart from the Fort Peck and Bonneville Dams, previously referred to, construction has been carried forward during 1938 on dams on the Mississippi River at Clinton and Le Claire, Ia., New Boston, Ill., Saverton, Clarksville, and Cap au Gris, Mo., the completion of which during 1939 will make the 9-foot channel fully available up to Minneapolis. Tygart Dam in West Virginia, constructed to store water for improvement of navigation in the Monongahela and for flood control in the Monongahela and Ohio Valleys, constituting the largest masonry dam in the eastern part of the United States, was completed during the year. Dam No. 9 on the Allegheny River at Rimerton, Pa., was completed and its component lock 90 per cent completed; also the raising of Emsworth Dam on the Ohio River, supplemented by channel dredging in the lower Allegheny, has permitted removal of obsolete Lock and Dam No. 1 on the Allegheny at Pittsburgh. The modern locks and dams on the Ohio River at Gallipolis and at Winfield on the Kanawha River have been fully completed. On the Illinois River construction of new moderns locks and dams at La Grange and Peoria will be fully completed early in 1939, and these structures in conjunction with the five locks and dams on the upper waterway will insure a stabilized 9-foot channel joining the Mississippi River at Grafton and Lake Michigan at Chicago.

COASTAL PORTS

At Boston Harbor ledge rock was removed from the main 40-foot inner channel as well as from the 30-foot channel in Mystic River; and a contract for dredging to 27 feet in Weymouth Fore River was completed. Preparations were made for deepening the channel at Providence, R. I., to 35 feet. Deepening the channel at Flushing Bay was also undertaken. At New York Harbor dredging has been carried out at Red Hook Flats anchorage to secure a depth of 40 feet; Bayside and Gedney Channels to 35 feet; Bay Ridge and Red Hook Channels to 40 feet; New York and New Jersey Channels to 35 and 37 feet; and Harlem River at Johnsons Island to 15 feet. At Washington, D. C., channels were deepened to 24 feet and construction of facilities for development of the commercial waterfront was commenced. The projects for dredging the entrance channel at Charleston, S. C., to full width of 1,000 feet; the 30-foot channel at Savannah, Ga.; the 30-foot channel at Jacksonville Harbor, Fla.; the 27-foot channel at Fort Pierce Harbor, Fla.; the 20-foot channel at Lake Worth, Fla.; and widening of the 30-foot bay channel at Miami, Fla., were completed. On the Gulf Coast, channel facilities were materially improved by work carried out at Tampa and Port St. Joe, Fla., and Port Arthur, Beaumont, Galveston, and Houston, Tex. On the Pacific Coast preparations were made for enlargement of anchorage facilities at San Diego Harbor. The outer breakwater and the 40-foot entrance channel at Los Angeles was completed. Construction of a protected port at Welles Harbor, Midway Island, for transpacific seaplane service has been commenced.

MISSISSIPPI FLOOD CONTROL

The flood control project for the Mississippi River in its alluvial valley and for its improvement from the Head of Passes to Cape Girardeau, Missouri, adopted by the Flood Control act approved May 15, 1928, and amended by act approved June 15, 1936, was further amended by act approved June 28, 1938. The last act authorized $40,000,000 for work in addition to that contemplated by the project as amended in 1936, the total authorization for the flood control project on the lower Mississippi River now being $637,000,000, of which $351,000,000 has been appropriated and expended or scheduled for expenditure.

The amendments retain the purposes and the completed features of the 1928 act, and authorize extension of work in the alluvial valley, including the St. Francis, Yazoo, Tensas and Atchafalaya Basins, as well as the alluvial lands around Lake Pontchartrain, for protection against the maximum predicted flood. North of the Arkansas River, floods will be confined generally to the main leveed channel; a limited area in the St. Francis Basin, and the City of Cairo, Ill., being given additional protection by the New Madrid floodway. South of Arkansas River flood waters in excess of that which the leveed channel of the main river will carry safely will find their way to the Gulf through floodways located in the lowlands west of the river. New Orleans has been given additional protection by the Bonnet Carre Spillway, emptying into Lake Pontchartrain. In addition to levee work, the project includes construction of revetments and regulating works to prevent bank caving and to stabilize the channel in the interest of navigation.

The amended project substitutes the Eudora floodway through the Macon Basin and a back protection levee extending from the head of this floodway north to Arkansas River. South of Red River it provides for construction of the Morganza floodway extending from the Mississippi River north of Morganza into the Atchafalaya floodway south of Krotz Springs. It also includes a six-year program for improvement and regularization of the Mississippi River and for improvement of the discharge capacity at Atchafalaya River and of its outlets, as well as the construction of an additional outlet to the Gulf of Mexico, *via* Wax Lake, La. Flood control projects for St. Francis and Yazoo Rivers to protect from over-flow by these rivers certain alluvial lands, are also included in the project for the alluvial valley of the Mississippi.

The flood control works constructed by the Corps of Engineers of the United States Army in the alluvial valley of the Mississippi River protected that vast valley against the great Ohio River flood of January and February, 1937. This flood was passed to the Gulf of Mexico without any breaks in the controlling levees, the New Madrid Floodway and the Bonnet Carre Spillway fulfilling very satisfactorily the purpose for which they were designed. During the year work was actively continued on the project, and since inauguration of work in 1928 about 650,000,000 cubic yards of earth have been placed in the levees, 500,000 lineal feet of revetment have been placed to protect the banks of the main Mississippi River, and 200,000 lineal feet of dikes have been constructed as contraction works in the interest of navigation. Two reservoir projects involving the construction of large earth dams at Sardis on Tallahatchie River in Mississippi, and Wappapello on St. Francis River in Missouri are under construction as a part of the flood control project in the alluvial valley.

NATIONAL FLOOD CONTROL

A definite flood control policy providing for the construction of economically justified flood control projects throughout the United States by the Federal Government in cooperation with the States, political subdivisions thereof, or other local interests, was established by act approved June 22, 1936. The Flood Control Act, approved June 28, 1938, provides for a material expansion of Federal participation in flood control.

Among the works under way or about to be placed under way are: reservoir projects in the Merrimack and Connecticut River Basins, Conn., Mass., N.H., and Vt.; two reservoirs and several local protection projects for the southern New York and northern Pennsylvania area; levees and incidental works for the protection of several cities and towns along the Susquehanna River, Pa.; Potomac River levees to protect Washington, D.C.; levees along the Savannah River to protect Augusta, Ga., and along the Coosa River at Rome, Ga.; Tionesta and Crooked Creek Dams in Pennsylvania and preliminary work on other reservoir projects in the Allegheny-Monongahela River Basins, Pa., N.Y. and W.Va., for the protection of Pittsburgh, Pa., and the reduction of floods in the Ohio River Basin generally, and channel improvement work to protect Johnstown, Pa.; local protection for several cities and towns along the main stem of the Ohio River; levees and channel improvements within the Lower Mississippi River Basin at Memphis, Tenn., and Columbia, La., along the Lower Red River in Louisiana, and along the Big Black and Homochitto Rivers in Mississippi; construction of Conchas Dam, N. Mex.; construction of Fort Supply and Great Salt Plains Reservoirs in Okla.; construction of levees and related works for various localities in the Arkansas River Basin; construction of reservoirs, channel improvements and levee projects within the Los Angeles, San Gabriel and Santa Ana River Basins, Calif., for protection of the metropolitan areas in Los Angeles and Orange Counties, Calif.; preliminary work in connection with the Mud Mountain Dam on White River in the Puyallup River Basin, Wash.; various levee and channel improvement projects along the Upper Mississippi River in Iowa, Illinois, and Missouri, along the Illinois and Sangamon Rivers in Illinois, along the Wabash River in Indiana and Illinois and along the Lower Columbia River and its tributaries in Washington and Oregon.

Other outstanding flood control projects now under way or completed are: the Muskingum River Basin, Ohio, project, including 14 reservoirs initiated early in 1934 and completed during the year; the Winooski River, Vt., and flood control project, including three reservoirs, constructed with Civilian Conservation Corps personnel under the supervision of the Corps of Engineers, completed during the year; local protection projects along the Connecticut and Merrimack Rivers, Mass. and Conn., constructed under the direct supervision of the Corps of Engineers with Emergency Relief Administration funds and relief labor.

WATERBORNE COMMERCE AND TERMINAL FACILITIES

Waterborne commerce continues to show pronounced recovery, the total net adjusted tonnage of the United States for the calendar year 1937 amounting to 583,100,000 tons. This commerce is more than 240,000,000 tons greater than that recorded for the depression year of 1932.

Existing wharf, dock and terminal facilities were enlarged during the year and new equipment installed for handling cargo and transferring it to and from shipside. Examples of these improvements, as enumerated, illustrate the efforts made by port authorities and others to provide for the increasing demands of water transportation.

NORTH ATLANTIC PORTS

Portland, Me.—Ten new oil storage tanks were erected, increasing the oil storage capacity of the port by 341,000 barrels.

Gloucester, Mass. — The Department of Public Works of Massachusetts continued work on the construction of the $1,200,000 fish pier. Additional facilities, including an administration building, fish stalls, and a cold storage warehouse, will be added.

Boston.—Six steel tanks with a capacity of 120,000 gallons were installed at the Army Base for the receipt and storage of liquid latex in bulk. Oil companies continued the improvement of their terminals on Chelsea Creek and greatly increased the oil storage capacity of the port.

Provincetown, Mass.—The Department of Public Works of Massachusetts redredged the entrance channel to a depth of 17 feet at mean low water and dredged an anchorage basin 200 feet by 65 feet to a depth of six feet and 250 feet by 100 feet to a dept of 12 feet.

New York.—The first foreign trade zone in the United States was officially opened at Stapleton, Staten Island, on Feb. 1, 1937. The Department of Docks of New York installed mechanical equipment consisting of elevators, conveyors, escalators, incinerators, and sprinklers at Piers 45 and 92, North River, constructed a bulkhead in Sheepshead Bay along Shore Boulevard, a bulkhead wall in Newtown Creek, and another along East River between Grand Street and East 15th Street, Manhattan. The Department of Parks constructed boat basins in Hudson River at 7th Street, Manhattan, and at Flushing Bay, New York, and built about three miles of steel sheet pile bulkhead along the south shore of Jamaica Bay. At Jersey City, N. J., a railroad pier was rebuilt, another pier was reconditioned, a new dock and building were under construction, and a reinforced marginal street was constructed between Exchange Place South and Sussex Street.

Albany, N. Y. — Improvements were made by an oil company which included a warehouse, 10 steel storage tanks of 15,000,000 gallons capacity, and a steamer dock 60 feet long with four dolphins, six pipelines, and a 4-ton stiff-leg derrick. The Albany Port District Commission completed a steel transit shed.

Philadelphia.—Pier No. 12, North Wharves, Delaware River, was rebuilt and is now approximately 70 feet by 523 feet, modern refrigerator rooms and an automatic sprinkler system being provided. The City of Philadelphia dredged a total of 427,850 cubic yards of material from the channels of the port during the year.

SOUTH ATLANTIC PORTS

Norfolk. — The major improvements of this port during the year consisted of the construction of a concrete pier, 416 feet long and 43 feet wide, and of extensive improvements and additions to fertilizer plants on the Southern Branch of Elizabeth River. One fertilizer company constructed a complete mixing plant comprising a pier 250 feet long by 20 feet wide and a one-story building with overhead tracks; another company constructed a one-story warehouse equipped with a bagging mill and a pier 300 feet long by 20 feet wide; while a third increased its warehousing facilities by the erection of a two-story building equipped with acidulating machinery and a complete sulphuric acid plant. At the Naval Operating Base 65,000 tons of riprap stone were placed against the outer face of the bulkhead, and the channel in front of the base was dredged.

Plymouth, N. C.—A large woodpulp plant was completed at this Roanoke River port. The plant consists of 15 buildings, a receiving wharf equipped with an unloading derrick and a shipping wharf with an overhead traveling crane. The company owns and operates six barges in conjunction with this plant.

Wilmington, N. C.—An unloading tower capable of unloading 350 tons of bulk fertilizer materials per hour was installed at one of the warehouses in Wilmington and a 360-foot extension added to the company's wharf. Oil storage tanks were added by several oil companies, making the total oil storage capacity of the port on Dec. 31, 1937, 1,249,687 barrels.

Charleston.—A steamship company rebuilt to original dimensions one of its piers which was burned in 1936; the Columbus Street Wharf of the Port Utilities Commission was enlarged by a 440-foot extension. A railroad spur extends along the entire length of the wharf. Work was begun on the construction of a seaplane base during the year.

Georgetown, S. C.—An oil barge terminal was constructed on the north side of Sampit River about one-half mile above its mouth. It is connected by pipelines with storage tanks ashore, which have a total capacity of approximately 145,000 gallons. A large paper company constructed a steamship terminal on the same river about a mile above the city water front, intended primarily for the receipt of fuel oil and raw materials and the shipment of paper products. This company also built a marginal dock about a mile and a half above the city water front which is equipped with conveyor lines for handling pulpwood from barges.

Savannah.—The second and third units of an $11,000,000 paper plant having an annual capacity of about 210,000 tons of kraft paper and paperboard were completed during the year. A new fertilizer warehouse was built at the port and the oil storage facilities increased by the installation of six new tanks having a total capacity of 95,000 barrels.

Brunswick, Ga.—The first unit of a large paper plant was completed. It has a daily capacity of about 150 tons of bleached sulphate pulp and is served by a 250-foot open pile and timber wharf which has a depth of 28 feet of water alongside at mean low tide.

Fernandina, Fla.—Two paper companies made extensive improvements. One completed at a cost of approximately $3,000,000 is the first unit of a pulp and paperboard mill having a daily capacity of approximately 125 tons of sulphate wood pulp. A wharf having 254 feet of frontage was also constructed and an approach channel dredged to a depth of 26 feet at mean low water. Another company started work on a $6,000,000 paper plant, completing the construction of two open pile and timber wharves with dredged approach channels 28 feet deep at mean low water, and about 1½ miles of track. Work was begun on the rehabilitation of the city-owned fish wharves.

Jacksonville. — A new quarantine station was constructed by the United States Public Health Service, dredging was done and repairs and additions made at several private terminals, and the City of Jacksonville constructed a 50 by 200-foot warehouse on Pier 3 of the municipal docks.

Fort Pierce, Fla.—The City of Fort Pierce constructed a yacht basin and channel connecting with the Intracoastal Waterway. A bulkhead extends along the shore side of the basin with seven timber piers, six feet wide and 40 feet long, extending into the basin from the bulkhead.

Hollywood Harbor, Fla. — The Broward County Port Authority built an addition to the existing warehouse, constructed approximately 5,000 feet of trackage, completed a steel and concrete administration building, and dredged a slip 500 feet long, 125 feet wide, and 18 feet deep at mean low water. An oil company installed a 37,000-barrel steel storage tank for bulk petroleum products with approximately 1,200 feet each of 8-inch and 6-inch pipeline to shipside.

Miami.—Dredging was done by the City of Miami to facilitate the movement of large vessels to and from Slip No. 3 and to provide a depth of 28 feet in Slip No. 1; the three new warehouses on Pier 3, work on which was started in 1936, were completed. The first floors of two of the warehouses are occupied by precooling plants. The City of Miami also constructed bulkheads at the City Dock on Miami River, and Bay Front Park.

GULF COAST PORTS

Port St. Joe, Fla.—Work was begun on the construction of a marginal bulkhead wharf 2,922 feet long for use of ocean-going vessels. The wharf will be served with warehouse and trackage facilities. Two approach channels were dredged to a depth of 30 feet with vessel berths 400 feet wide and 30 feet deep. A canal to connect St. Josephs Bay and the Intracoastal Waterway was under construction by Gulf County, Fla.

Mobile, Ala.—Authority was granted for the establishment, operation, and maintenance of a foreign trade zone at Mobile, the second such zone to be established in this country. The zone embraces Pier A south, which has a berthing space of 550 feet on the lower side and 350 feet on the face, and contains one slip approximately 220 feet wide and 550 feet long, with a depth of 30 feet below mean low water. There are seven warehouses which provide 238,000 square feet of floor space. The total area of the zone is 15.3 acres, of which 12.7 acres are land. At the Alabama State Docks improvements were made including construction of oil storage tanks and facilities for bunkering vessels.

Galveston, Tex.—The wharf and shed at Pier 19 were rebuilt and a new system of conveyors installed for unloading bananas from ship to railroad car. A 30-ton locomotive crane was purchased for use in handling general cargo at the wharves in Galveston.

Corpus Christi, Tex.—Three new docks were constructed by the Nueces County Navigation District; oil tanks at more than a dozen plants increasing the oil storage capacity of the port by about 3,000,000 barrels and one new oil loading wharf were erected.

Brownsville, Tex. — A reinforced concrete wharf 440 feet long with a transit shed 400 feet by 120 feet was completed with a precooling plant having a capacity of 100 carloads with a complete turn-over every 24 hours. In addition, a reinforced cotton warehouse having a compress with a capacity of 100 bales per hour and a total storage capacity of 15,000 bales of compressed cotton was constructed.

PACIFIC COAST PORTS

San Diego, Calif.—Reclaimed tide land at the foot of Market Street was developed by the city for park purposes, the work involving the demolition of the old Santa Fe dock. A recreation pier was completed at the foot of 28th Street; dredging was done in channels and alongside wharves; and work was initiated to provide a protected municipal yacht harbor at La Playa and Roseville.

Los Angeles.—The terminal building at Berth 155 was completed providing 26,000 square feet of shedded area.

Long Beach, Calif. — An apron wharf 562 feet long, complete with pavings, railroad tracks, etc., was completed at Pier B, Long Beach Outer Harbor.

San Francisco. — Work was continued on the project for replacing old Piers 9, 11, and 19 by two new piers known as Piers 9 and 10, each of which is 153.5 feet by 800 feet. On each pier there is a transit shed wired for light and power, and steamship offices are provided in the bulkhead buildings at the shore ends. In addition, work was begun on the construction of a wharf and building connecting Piers 35 and 37.

Oakland Harbor.—Extensive works of improvement were completed and in progress at Oakland Outer and Inner Harbors. These works included reconstruction of wharf substructures, rehabilitation of wharves, warehouses, and tracks and street improvements.

Portland. — The Commission of Public Docks began the reconstruction of Municipal Terminal No. 1; installed a dust collecting system in the bulk grain elevator at Municipal Terminal No. 4; and provided two additional tanks equipped with pneumercator gauges to weigh bulk molasses.

Tacoma. — The Port Commission constructed a plant consisting of two processing buildings and two sharp freezing tunnels with freezing belts for processing and sharp freezing vegetables. Dry storage facilities at a pier of a paper company were increased to a total of 9,320 square feet.

Bellingham Harbor, Wash.—The Port Commission purchased 17 acres of water front property, 13 acres of which were filled and made available for industrial purposes. The dredged basin was fitted to store and service fishing vessels and other small craft. Private companies in Bellingham did extensive dredging, constructed a marine ways with side storage tracks capable of hauling out boats up to 120 feet long and up to 170 gross tons with storage space for eight boats, built an open pile wharf 35 feet wide and 800 feet long, and remodeled a two-story structure into a storage warehouse.

GREAT LAKES PORTS

Chicago.—Work was continued by the Chicago Sanitary District on the construction of controlling works in Chicago Harbor to prevent the discharge of the Chicago River into Lake Michigan during periods of heavy rain. A lock 80 by 600 feet in the clear with sills 23 feet below water datum in Lake Michigan is one of the principal features of this work.

Jackson, Mich. — Approximately 250,000 cubic yards of material were dredged by a power company in preparation for the construction of a new power plant on the east bank of the Saginaw River near the mouth.

Toledo.—Considerable dredging was done by local interests to improve the channels leading to coal and ore docks and to supply additional facilities for the winter mooring of vessels.

Sandusky.—Work was begun on the excavation of a channel and the construction of a coal dock, which together with the tracks and car dumper to be installed thereon will cost approximately $4,345,000.

Cleveland.—A steel sheet pile dock 270 feet long was erected for use in repairing steamboats. It is equipped with a small hammerhead crane.

Buffalo.—A 600-foot dock was constructed on the south side of Buffalo River. It is equipped with two 10-ton gantry cranes and is used for handling manufactured steel, scrap iron, stone, coal and numerous commodities of a similar nature.

INLAND WATERWAYS COMMERCE (RIVERS)

	Short Tons	Value
ATLANTIC COAST RIVERS		
Hudson River (except New York section)	11,091,186	$257,735,026
Delaware River above Philadelphia	3,696,251	19,728,546
Chesapeake Bay tributaries:		
Potomac River	2,449,622	75,419,798
James River	2,242,335	90,725,568
Other tributaries	3,399,560	83,355,121
St. Johns River, above Jacksonville	719,784	32,676,343
All others, Atlantic Coast	7,190,192	106,581,323
GULF COAST RIVERS		
Mobile River tributaries	1,663,807	33,858,289
Black Warrior, Warrior, and Tombigbee Rivers	1,829,628	42,302,577
Southern Louisiana Waterways (except Mississippi River)	5,343,980	89,102,741
All others, Gulf Coast	1,627,874	14,027,530
PACIFIC COAST RIVERS		
San Joaquin River, Calif.	976,110	45,701,340
Sacramento River, Calif.	663,710	40,364,100
Columbia River System:		
Columbia and Lower Williamette Rivers below Vancouver, Wash., and Portland, Oreg. (except ocean commerce)	7,300,200	59,928,801
Other sections of Columbia River	711,690	16,043,011
Willamette River above Portland, Oreg., and Yamhill River	2,504,265	21,886,746
Other Columbia River tributaries	2,597,027	9,498,047
All others, Pacific Coast	8,105,775	135,786,593
MISSISSIPPI RIVER SYSTEM		
Mississippi River, Minneapolis to the Passes	28,307,790	1,270,066,411
Ohio River	23,356,676	276,701,328
Monongahela River	24,927,507	100,895,622
Allegheny River	3,436,550	11,975,233
Kanawha River	3,176,319	11,616,922
Cumberland River	777,056	7,753,912
Tennessee River, Knoxville to Paducah	1,377,107	9,067,046
All others, Mississippi River System	7,212,115	112,695,457
OTHER RIVERS (Not tributary to Atlantic, Gulf, and Pacific Coasts)		
Fox River, Wis.	317,728	1,559,600
All Other Rivers	165,767	1,305,331

FEDERAL CANALS AND CONNECTING WATERWAYS COMMERCE

	Short Tons	Value
ATLANTIC COAST		
Cape Cod Canal	3,538,566	$191,287,404
Inland Waterway from Delaware River to Chesapeake Bay	1,436,828	59,578,308
Waterways from Norfolk, Va.:		
To Sounds of North Carolina	219,895	5,007,634
To Beaufort Inlet, N. C.	823,343	41,897,047
Waterway between Beaufort, S. C., and St. Johns River, Fla.	475,171	9,040,770
All others, Atlantic Coast	1,510,093	40,659,166
GULF COAST		
Intracoastal waterway, St. Marks River, Fla., to Corpus Christi, Texas	5,753,919	115,893,777
All others, Gulf Coast	38,782,627	572,995,709
PACIFIC COAST		
Lake Washington Ship Canal, Wash.	1,731,015	13,057,697
All others, Pacific Coast	2,465,922	62,463,737
GREAT LAKES		
Keeweenaw Waterway, Mich.	201,271	18,305,585
St. Marys Falls (Soo) Canal	87,633,699	925,644,409
Sturgeon Bay and Lake Michigan Ship Canal	245,207	29,395,350
Detroit River (partial)	26,203,257	276,473,846
All others, Great Lakes	5,575,681	172,007,400
All Others of Record	2,838,857	47,719,472
TOTAL, rivers, canals, and connecting channels improved by the Federal Government	334,963,142	$5,473,720,233
STATE AND PRIVATE CANALS		
New York State Barge Canal System	5,010,464	$ 252,492,668
Florida State canals	239,043	2,086,265
Navigation Canal, New Orleans, La.	1,822,618	207,826,004
All other State and private canals	308,449	3,146,949
TOTAL, State and private canals	7,380,574	$ 465,551,886
GROSS TOTAL, ALL WATERWAYS OF RECORD	342,343,716	$5,939,272,119
NET TOTAL, corrected for duplications because of commerce moving over two or more waterways	313,287,158	5,556,680,554

COASTWISE COMMERCE AT PORTS

(Including Intercoastal)

	Tonnage Both Ways	Value
ATLANTIC COAST PORTS		
Portland, Me.	2,746,952	$ 58,607,919
Boston, Mass.	13,793,102	558,514,570
Providence, R. I.	5,279,199	507,791,101
New York, N. Y.	38,879,608	2,454,691,200
Philadelphia, Pa. (Philadelphia to the sea)	23,577,788	760,534,567
Baltimore, Md.	9,421,783	375,128,315
Norfolk, Va.	13,803,655	490,401,559
Newport News, Va.	8,291,055	78,452,117
Wilmington, N. C.	1,192,072	25,330,392
Jacksonville, Fla.	2,264,847	145,966,708
Ports of Puerto Rico	1,221,808	128,851,544
All others, Atlantic Coast	20,790,706	1,064,922,493
GULF COAST PORTS		
Tampa, Fla.	2,310,757	71,046,561
Pensacola, Fla.	151,108	5,568,967
Mobile, Ala.	1,511,888	64,789,308
New Orleans, La.	6,889,089	338,643,044
Baton Rouge, La.	5,177,904	41,825,482
Galveston, Texas	2,705,500	276,640,288
Texas City, Texas	8,161,671	84,078,513
Houston, Texas	17,734,831	429,830,506
Port Arthur, Texas	16,005,263	208,525,259
Beaumont, Texas	16,138,519	185,481,860
Corpus Christi, Texas	4,101,194	88,793,669
All others, Gulf Coast	10,807,392	162,879,453
PACIFIC COAST PORTS		
Los Angeles, Calif.	13,656,427	761,885,845
San Francisco, Calif.	2,140,864	261,900,935
Other San Francisco Bay Ports	14,390,963	361,311,129
Portland, Oreg.	4,013,514	194,531,632
Tacoma, Wash.	1,600,490	72,118,564
Seattle, Wash.	4,555,698	291,897,613
All others, Pacific Coast	20,918,495	380,419,781
NONCONTIGUOUS PORTS		
Ports of Puerto Rico (see Atlantic Coast Ports)		
Ports of Alaska	419,275	61,120,991
Ports of Hawaii	4,180,180	260,847,997
GROSS TOTAL, COASTWISE COMMERCE AT ALL PORTS EXCEPT GREAT LAKES	298,833,597	$11,253,329,882
NET TOTAL, ALL PORTS, corrected for duplications of receipts and shipments	149,416,798	5,626,664,941

COMMERCE THROUGH THE PANAMA CANAL

Fiscal Year	Intercoastal [1] (Short Tons)	Total (Short Tons)
1929	11,084,212	$34,342,567
1930	11,174,429	33,633,860
1931	9,862,020	28,092,736
1932	7,417,742	22,184,958
1933	7,197,801	20,280,655
1934	9,877,602	27,684,889
1935	8,919,019	28,346,670
1936	8,645,364	29,686,562
1937	7,324,792	31,481,380
1938	7,161,924	30,672,235

[1] Included in coastwise figures.

IX. DEFENSE AND ARMAMENT

FOREIGN AND DOMESTIC COMMERCE OF PORTS

(Calendar Year 1937)

(Short Tons)

Grand Divisions	Foreign			
	Imports		Exports	
	Tons	Value	Tons	Value
Atlantic coast	33,885,042	$4,700,686,453	16,458,719	$2,188,635,661
Gulf coast	5,976,768	214,919,904	20,941,855	709,452,154
Pacific coast	3,902,627	402,615,655	15,508,990	497,261,640
Great Lakes	4,102,018	106,574,589	13,636,907	85,777,493
GRAND TOTAL:				
Unadjusted	47,866,455	5,424,796,601	66,546,471	3,481,126,948
Adjusted total, eliminating all known duplications	47,866,455	5,424,796,601	66,546,471	3,481,126,948

Grand Divisions	Domestic		Grand Total	
	Tons	Value	Tons	Value
Atlantic coast	277,346,436	$13,124,130,793	327,690,197	$20,013,452,907
Gulf coast	111,329,981	2,463,628,600	138,248,604	3,388,000,658
Pacific coast	90,168,384	3,085,457,599	109,580,001	3,985,334,894
Great Lakes	278,754,575	3,551,238,159	296,493,500	3,743,590,241
GRAND TOTAL:				
Unadjusted	757,599,376	22,224,455,151	872,012,302	31,130,378,700
Adjusted total, eliminating all known duplications	431,169,298	12,738,253,638	545,582,224	21,644,177,187

Total water-borne commerce of the United States, 1937
Adjusted total, 583,100,000 tons
Value, $20,900,000,000

UNITED STATES NAVAL FORCES

By Arthur P. Fairfield

Rear Admiral, U.S.N.; Assistant Chief of Naval Operations,
Navy Department

EMPLOYMENT OF FORCES

Basic Policy.—The operations of naval forces during the fiscal year ended June 30, 1938, were directed toward carrying out the established basic policy which is as follows: "To maintain the Navy in sufficient strength to support the national policies and commerce, and to guard the continental and overseas possessions of the United States." In these operations constant attention has been given to economy in order that the greatest possible effectiveness might be obtained from the funds appropriated for the maintenance of the Navy.

Objectives.—The following contributory objectives have been a guide toward attainment of the purposes expressed in the fundamental policy: (a) to exercise and train the units of the Fleet to the highest state of efficiency; (b) to organize the Navy for operations in either or both oceans so that expansion only will be necessary in case of national emergency; (c) to protect American lives in disturbed areas; (d) to assist in evacuating American nationals from areas of especial danger; (e) to maintain uninterrupted communications with and for American nationals and for our diplomatic and consular establishments in the areas involved; (f) to cooperate fully with other departments of the Government and with the States; and (g) to cultivate friendly international relations.

Organization.—The organization of the Navy was not materially changed during the year. The seagoing units continued, with a few temporary exceptions, to be divided among the United States Fleet, the Asiatic Fleet, the Special Service Squadron and the Naval Transportation Service. New ships completed during the year were fitted into this organization and, in case they replaced old vessels, the latter were placed out of commission. Small craft, of nonseagoing types, were maintained for service in the naval districts and at naval shore stations. The shore establishment of the Navy performed essential services in its mission of supporting the forces afloat.

OPERATING FORCE PLAN AND PERSONNEL PLAN

Purpose. — The operations of the seagoing units of the Navy are, in their broad scope, planned far in advance. The principal plans upon which the operations are based are the Operating Force Plan and the Personnel Plan for the fiscal year concerned. These plans must be developed together, as they determine the number of ships that can be operated with the personnel that is available for their operation. When the amount of the funds appropriated for the year is known these two plans can be adjusted to close agreement and the contributory plans brought into harmony with them.

Personnel.—During the fiscal year 1938 the average number of enlisted men provided for was 105,000. The average enlisted strength of the Marine Corps was 17,000. In employing the Navy personnel the maximum practicable number of men was assigned to duty afloat. The men on sea duty were so distributed as to maintain the greatest possible number of ships in active commission. Ships which require full complements for their safe operation, such as submarines, were fully manned. The other units were maintained at about 85 per cent of their full peace-time complements. This is the lowest number that will insure reasonably effective standards for the performance of intensive training and provide for efficient upkeep of material.

Ships in Commission.—During the fiscal year 1938, 347 ships were operated at sea. Of these, 302 ships were in commission throughout the year, 45 for portions of the year. The number of small craft in service in naval districts and at shore stations was 184. Four school ships were loaned to the States of New York, Massachusetts, Pennsylvania, and California. The total number of naval vessels of all types in service during the whole or a part of the fiscal year was thus 535. The ocean-going ships referred to above included 15 battleships, five aircraft carriers, 17 heavy cruisers, 15 light cruisers, 126 destroyers and light minelayers, 58 submarines, one minelayer, 14 patrol vessels, and 96 auxiliary vessels of various types. Included among these were the following new ships, first commissioned during the year: five light cruisers, two aircraft carriers, 12 destroyers, and six submarines. Ships placed in commission after varying periods out of commission consisted of one oiler and one ocean-going tug.

Ships Placed Out of Commission.—The following ships were placed out of commission during the year: 10 destroyers and light minelayers, four submarines, one gunboat, one ocean tug, one converted yacht, and one minesweeper. There were stricken from the Navy Register during the year 21 ships of various types, all of minor categories, whose age and material condition were such that they did not warrant retention and reconditioning.

THE UNITED STATES FLEET

Operations.—The major portion of the United States Fleet operated throughout the year in waters of the Eastern Pacific. As in other recent years, the basic training of type units was continuous and was supplemented by frequent periods of fleet tactical exercises in which all types participated for the purpose of coordinating the basic training and of developing the uses of type groups in support of each other in a fleet objective. The final and principal fleet exercise of the year was Fleet Problem XIX, which was conducted in the Hawaiian-Pacific area during March and April. This exercise brought all available units of the fleet together in a sustained and wide-spread operation, simulating war conditions as realistically as practicable, for the purpose of strategical as well as tactical training. Fleet Landing Exercise No. 4 was conducted by designated units of the fleet in the Culebra area.

Training of the personnel in gunnery, engineering, communications, damage control and in the operation and upkeep of material was continuous throughout the year. During the first quarter, units of the Fleet visited Alaska, and parts of the Northwest. Certain ships of the Battle Force were employed during this period in training naval reserves and Reserve Officers Training Corps detachments. During the second and third quarters the Fleet was engaged principally in operations in the San Pedro-San Diego area for the basic training referred to above. After the completion of the Fleet Problem during the fourth quarter the major portion of the Fleet returned to their bases in the San Pedro-San Diego area. The Training Squadron of the United States Fleet operated during most of the year in Atlantic waters, making cruises with naval reserves and Reserve Officers Training Corps units. During the summer months it cruised with midshipmen from the Naval Academy.

Tactics.—Ships of the Fleet, whenever operating at sea, are undergoing training in tactics, either singly or in varying groups. The more advanced phases of such training are provided for in the periodical tactical exercises of the Fleet as a whole, and in the annual large-scale fleet problem. Indoctrination in accepted methods, and drills in the execution of the required movements are therefore continuous. Experiment with new methods and development of those which prove advantageous are also provided for and advances are made from year to year in the tactical capabilities of the various type groups and of the fleet as a whole. The concentration of the fleet on one coast at bases within close touch of one another has contributed greatly to this result and has proven to be of the utmost value. This has been particularly beneficial at a time when new ships in considerable numbers have been joining the fleet as replacements for overage ships withdrawn from service.

Gunnery.—Efficient performance of each ship in gunnery is a basic requirement for the battle efficiency of the Fleet. Active and continuous training in the use of weapons is therefore always an important part of the fleet program. Frequent target practices with all weapons have been held during the year and very satisfactory progress in technique has resulted. The program has, as in other years, included experimental practices for the trial and development of new and improved methods. Gunnery schools conducted in the early part of the year on board designated vessels of each type, attended by officers and men from other ships of the type group, have continued to prove of great value as an intensive and economical method of primary training. San Clemente Island, off the southern coast of California, has been placed under the jurisdiction of the Navy Department and has been designated as a fleet training base. It is being brought into use for target practice with small-arms and machine guns, and as an aircraft bombing range. It also provides an area suitable and useful for training in landing operations.

Engineering Performances.—The engineering performances of each ship in the Navy are subject to the observance of rules which have been designed to insure uniform good practice, close attention to detail, and rigid economy. Complete data are observed and recorded for purposes of analysis. These analyses are useful in improving standards, developing better methods of operation and in pointing out any inherent weaknesses of material which require correction. The information collected and digested in this manner is of great value in improvement of design. It also provides the means for estimating closely the logistic needs of the fleet in fuel, lubricating oils, and engineering stores under a wide variety of conditions.

NAVAL AVIATION

Aircraft.—On June 30, 1938, the Navy had 1,859 airplanes on hand, of which 1,390 were service planes, 115 obsolescent, 307 obsolete and 47 experimental. Operations of aircraft with the Fleet have been extended in scope and have been characterized by close coordination between the air and surface units. The policy of maintaining naval aviation as an integral part of the Navy, wholly under naval administration and control, has proven its soundness and is essential to maintenance of the present high state of efficiency. The aircraft carriers of the Fleet, with their attached airplane squadrons, and the patrol plane squadrons of the Fleet participated in the periodical fleet tactical exercises and in the annual fleet problem and contributed outstanding performances.

Flights.—During the year Navy aircraft took part in the following notable flights:

1. On Nov. 14, 1937, seven patrol planes from Patrol Wing Five assisted in the search for survivors of the Greek Steamship *Tzenny Chandris,* which steamship sank off Diamond Shoals Light. One of these patrol planes located the wreckage, and a large number of survivors who were clinging to timbers and swimming in life jackets. The plane guided the Coast Guard Cutter *Mendota* to the area where rescue operations were effected.

2. Non-stop flights for the purpose of ferrying aircraft were made as follows: (a) From San Diego to Fleet Air Base, Coco Solo, 14 VP planes, departing on Dec. 8 and arriving on Dec. 9, 1937. (b) From San Diego to Pearl Harbor, 18 VP planes, departing on Jan. 18 and arriving on Jan. 19, 1938.

3. Extended flight training from tenders, using outlying bases, was conducted by units of Aircraft Scouting Force, as follows: (a) By Patrol Wing One on the Pacific Coast of the United States and in Alaskan waters; (b) By Patrol Wing Two in the Hawaiian Area; (c) By Patrol Wing Three in the Caribbean Area; (d) By Patrol Wing Four on the West Coast

of the United States and in the Alaskan Area, squadrons from this Wing alternating in basing for periods of approximately six weeks at Sitka, Alaska; (e) By Patrol Wing Five on the East Coast of the United States, and in the Caribbean area, a squadron from this Wing taking part in the Fleet Landing Exercises held in the Culebra-Puerto Rico area.

4. Aircraft One, Fleet Marine Force, with a total of 51 airplanes flew from Quantico to San Juan, Puerto Rico for the purpose of engaging in Fleet Landing Exercise No. 4 in that area, departing Quantico Jan. 23 and returning March 12.

5. Fleet Aircraft took part in Coastal Frontier Joint Air Exercises and in Minor Air Exercises of the same character on both Atlantic and Pacific Coasts.

6. Naval Aircraft took part in the National Air Races held at Cleveland, and aircraft of the Fleet Marine Force participated in the Miami All American Air Show.

THE ASIATIC FLEET

Ships of the Asiatic Fleet, under the command of Admiral Harry E. Yarnell, performed their normal functions with exception of incidents resulting from the undeclared war in China; being employed on the Yangtze River, in northern and southern Chinese ports, carrying out regular gunnery exercises and making cruises to the Southern Philippines and East Indies ports. The forces of the Asiatic Fleet were employed to a considerable extent during the year in the protection of American nationals and American interests in the Far East. For several months, due to discontinuance of the Dollar Line Steamships' scheduled stops at Shanghai, it was necessary to contact steamers of that Line at Yokohama with destroyers of the Asiatic Fleet for delivery of United States mail to Shanghai. The U.S.S. *Marblehead* was detached from the U.S. Fleet early in September and ordered to report to the Asiatic Fleet.

On Dec. 12, 1937 the U.S.S. *Panay* was bombed and sunk by Japanese aircraft while anchored in the vicinity of Hoshien on the Yangtze River.

The Fourth Regiment of the Marine Corps, consisting of 65 officers and 1,185 enlisted men, was maintained at Shanghai.

The Second Marine Brigade, Fleet Marine Force, of 76 officers and 1,281 enlisted men embarked Aug. 18, 1937 for temporary duty at Shanghai. On completion of this duty on Feb. 18, 1938, the Second Marine Brigade, en route to San Diego, Calif., participated in landing exercises as part of Fleet Problem XIX. The Marine Corps also maintained the Embassy Guard at Peiping as in previous years. The strength of this detachment was 26 officers and 515 enlisted men. These forces of the Marine Corps operated to protect American lives and interests in disturbed areas.

SQUADRON SERVICE

The ships of the Special Service Squadron were employed during the fiscal year in their usual area of operations in Central American waters. Their normal base is the Panama Canal Zone. The principal activity of these vessels was the accomplishment of the prescribed program of training exercises. During the year units of the squadron made courtesy visits to Colombia, British West Indies, Mexico, Honduras, Costa Rica, Cuba, Guatemala, Panama, Nicaragua, British Honduras, Ecuador, Peru, Chile, Bolivia, and Salvador.

In September, 1936, a special temporary squadron consisting of a light cruiser and two destroyers, was despatched to Spanish waters to assist in evacuating American nationals from the areas in which hostilities were under way. During the 1938 fiscal year the squadron operated in the Mediterranean and in the Bay of Biscay basing upon French ports.

NAVAL TRANSPORTATION SERVICE

The Naval Transportation Service is maintained for the purpose of caring for a part of the Navy's needs for water transport of personnel and supplies. The ships assigned to this service have been operated for purposes that commercial shipping facilities could not meet advantageously, on account of either the routes involved or because of the character of the cargo carried. Seven vessels were assigned to this service throughout the fiscal year 1938. There were two transports, one ammunition ship, two cargo carriers and two oilers. In addition, one combination troop and cargo ship was commissioned for such service during a part of the year.

The auxiliary cargo ship *Sirius,* in July-August, 1937, made the annual voyage to the Pribilof Islands for the purpose of transporting personnel and supplies to government agencies in that area and of returning with the yearly shipment of sealskins from the government-supervised catch. This has been a Navy mission since 1927. The *Sirius,* in May-June, 1938, towed crane ship No. 1 (ex-*Kearsarge*) from Bremerton, Wash., to the Navy Yard in New York.

NAVAL INTELLIGENCE

The Office of Naval Intelligence is an agency for the collection, analysis and dissemination of information of value to the Navy. It administers the work of naval attaches and naval missions abroad, maintains the Navy Department's public relations branch and supervises the Department's Library and historical records. These activities were continued during the fiscal year 1938 without essential change. New attache offices were opened during the year at Guatemala City, Guatemala, and Lisbon, Portugal. The office at Brussels, Belgium was discontinued. Relations with the press and with allied publicity agencies have been cordial and satisfactory. Special effort has been continued to supply the American Public with information about the Navy as fully and promptly as practicable. The Navy Department Library continued its work of classifying and indexing naval records of historical value including pictures, and of publishing naval historical documents. During the year there were added to the Library 1,287 books and documents, bringing the total of the collection to 85.527 items. The Library has done much research work in complying with requests for information from other departments of the government and from the public.

NAVAL COMMUNICATIONS

Thirty-six naval radio traffic stations ashore were maintained in an active status during the fiscal year. Five others were kept in an inactive status, with only sufficient personnel for upkeep. In 13 United States diplomatic missions abroad there were maintained radio receiving sets, each operated by a Navy radioman, for the purpose of copying the radio bulletins broadcast for the Department of State. The Naval Radio Station at St. Paul, Pribilof Islands, was turned over to the Bureau of Fisheries of the Department of Commerce in August, 1937. It is estimated that the Naval Shore Radio System handled traffic, including relays, totalling 176,215,717 words. Of this traffic approximately 47 per cent was for other departments of the government.

The Navy maintained during the year 36 radio direction finder stations for the purpose of furnishing bearings to assist in the navigation of ships near our coasts. Five stations were permanently closed. This service is available to and used by, not only United States naval vessels but by merchant or naval ships of all nationalities. Similar service is also given to aircraft in flight when requested. During the year the stations furnished about 217,000 bearings. The value of this service to the recipients can hardly be over-estimated.

The Naval Observatory, Washington, D. C. and the Manila Central Observatory broadcast daily time signals through Naval Radio stations. The Naval Observatory, Washington, by means of radio control and a crystal clock at Mare Island, controls the broadcast of time from our radio stations at Washington, San Francisco, Honolulu, and Balboa. On March 31, 1938, four more time signals were added to Radio Washington's broadcast of time, giving time signals from this station every hour during the 24 hours.

Weather bulletins were broadcast daily from 25 naval radio stations; hydrographic information bulletins daily, or as issued, from 18 stations. Naval radio facilities are also of assistance to the Weather Bureau in its collection of observed weather data, especially from ships at sea.

The Navy accepts commercial telegrams for transmission through its system only when private facilities are not available. There was, nevertheless, a considerable volume of such traffic during the year and the earnings turned in to the Treasury from this source during the year amounted to about $36,000.

Communications in the Fleet, both by radio and by visual means, have been gradually improved through intensive training and competition and through improvement and modernization of material. Visual communication between ships of the Fleet and United States merchant ships has been encouraged and the number of messages exchanged has increased from year to year. The Naval Communication Reserve has made very satisfactory progress in numbers and in efficiency. Thirty-one Naval Reserve Radio Control Stations are equipped with government-owned transmitting and receiving equipment. During Fleet Problem XIX, Communication Reserve personnel were placed on temporary training duty in the Eleventh, Twelfth, Thirteenth and Fourteenth Naval Districts. During the year the Communication Reserve rendered excellent service in connection with searches for lost commercial airplanes and during the flood emergency in Southern California.

In communications, as in other matters, close cooperation with the Army has been continued and has been extended wherever this could be done to the benefit of efficiency.

TECHNICAL DEVELOPMENT

The technical design, research and experimental work of the Navy is carried out by the several material bureaus of the Navy Department and in the various laboratories under their direction and control. In addition, there has been established in the Office of the Chief of Naval Operations a Technical Division for the purpose of maintaining a general close liaison with the vast research resources of the country at large, and of keeping the Chief of Naval Operations informed of technical developments both within the Navy and in civil activities. This Division maintains close touch with the National Research Council and with leading men of science throughout the country and is developing means whereby an emergency reserve staff of outstanding research scientists may be made available when needed. The Technical Division also reviews inventions and technical ideas submitted to the Navy Department from various sources at home and abroad and refers to the material bureaus those which appear worthy of further consideration.

OPERATIONS OF THE MARINE CORPS

The operations of the Marine Corps, as an integral part of the Navy, have been directed toward accomplishment of the following purposes, in support of the approved naval policy: (a) to provide adequate and trained marine detachments on board vessels of the Navy; (b) to maintain the Fleet Marine Force in immediate readiness as a tactical unit of the United States Fleet; (c) to protect naval property and shore establishments in the continental United States and outlying possessions; (d) to protect American lives and interests in disturbed areas involving operations ashore.

In effecting the above purposes, Marine detachments were maintained on board 52 ships, these detachments totalling 122 officers and 2,772 enlisted men. The Fleet Marine Force carried out an extensive training program at its bases and by participation with other units of the Fleet in Fleet Landing Exercise No. 4. The Fleet Marine Force consisted of 176 officers and 3,199 enlisted men. During the year 112 officers and 3,349 enlisted men of the Marine Corps were employed in guarding naval activities of the shore establishment. The employment and strength of the Marine regiment at Shanghai and of the Legation Guard at Peiping have been mentioned.

NAVAL CONSTRUCTION AND EQUIPMENT

By Peter Bain

Naval Construction Consultant

DEFENSE IN NAVAL ARMAMENT RACE

A stormy international sky at the close of 1937 was carried over into 1938. Seven great world Powers were seeking feverishly to project, develop, and build up their naval and military establishments. Not all of the seven Powers—United States, Great Britain, France, Russia, Italy, Germany, Japan—may be credited with a purely defensive purpose but it may be taken for granted that the preponderance leans in that direction. The rôle of the United States in the scramble for more and mightier armament was concisely presented in a letter sent by President Roosevelt to Secretary of the Navy Swanson on Navy Day, 1938. "We should rejoice that on this day when the navy is at home to our people that we are at peace with all the world. But within the past year, unsettled world conditions have made it imperative that we take stock of our national defense and face the facts. I believe it entirely consistent with our continuing readiness to limit armaments by agreement, that we maintain an efficient navy adequate in man and material to insure positive protection against any aggressor. The fleet must be ready." Again, reverting back to Jan. 28, 1938 when Congress was called upon to authorize a huge increase in the program of national defense, President Roosevelt, as Commander-in-Chief of the Army and Navy of the United States declared it to be his constitutional duty to report to the Congress "that our national defense is, in the light of the increasing armaments of other nations, inadequate for purposes of national security and requires increase for that reason."

With the exception of that of Japan, the naval construction programs of the other Powers are more or less matters of common knowledge, due in large measure to the implications of the London Treaty of 1936. The United States, Great Britain and France, as signatories, besides obligating themselves to an exchange of new naval construction plans and data, authorized Great Britain to bring Germany and Russia into line. This was accomplished through bilateral treaties which became effective Nov. 4, 1937. Italy had refused to become a signatory because of League of Nations sanctions and certain Mediterranean agreements against her as a result of the Italo-Ethiopian war. On Dec. 2, 1938, through a bilateral treaty with Great Britain, Italy finally came within London treaty scope. This latest addition to treaty ranks was expected to have little practical effect in any direction for Italy all along had been observing voluntarily the embodied limitations. Similar bilateral treaties between Great Britain and the individual Scandinavian nations, it had been expected, would be signed before 1938 came to a close.

Japan, of all the great naval Powers, has not seen fit to come into line. Not only so, she has refused point-blank to give the slightest inkling of her naval construction activities, notwithstanding that particulars were sought individually by the United States, Great Britain and France. Japan holds that questions of qualitative building—size of ships and guns—cannot be discussed until quantitative building—total tonnage of navies—is settled, thus maintaining her former demands for a common upper limit on all fleets. In other words, Japan still insists on a 5–5–5 basis with the United States and Great Britain instead of the 5–5–3 basis in force until Dec. 31, 1936. In the reply of Feb. 12 to the three requests for particulars of naval construction in process and projected, Japan indicated that, if other Powers built super-battleships, she would follow suit, and that, if any of the Powers invoked the escalator clause of the 1936 London Treaty, it did not concern her. Japan's refusal to disclose her naval construction activities and to enter into any discussion of limitations agreements on a basis which the United States, Great Britain and France could accept has been interpreted as a direct challenge to a "blue sky" naval construction race.

ANGLO-GERMAN NAVAL PACT

When, too, it is borne in mind that Japan is part and parcel of an Italo-German-Japanese coalition seeking domination here, there and everywhere, one ceases to wonder at the huge defensive precautions, naval and military, against attack that the United States, Great Britain, France, and Russia were obliged to plan and mobilize through 1938. While little has been made public concerning Germany's naval construction activities, fear has been expressed in London that the Reich may upset what is left of the attempted international regulation of naval fleets by denouncing her limitations agreement with Great Britain. The Anglo-German naval agreement of 1935 restricted the German fleet to 35 per cent of the British tonnage, while its sequel in 1937 restricted German construction to types of war craft in the service of the British Navy. On Nov. 28, a German naval command publication, the *Nauticus Year Book,* carried the statement that Japan "probably" is building the largest war craft in the world. She was credited with building two new war vessels of between 40,000 and 45,000 tons displacement, each equipped with nine 15.98 inch guns. In view of the already indicated coalition of Germany, Italy and Japan, the statement regarding the latter's super-battleship construction must be considered as in some degree inspired and therefore not without some basis of fact. During 1937 unsubstantiated reports were current in Europe to the effect that Japan had under construction one or more super-battleships of 45,000 tons displacement.

BATTLESHIP SIZE LIMIT

While it may be assumed that the Naval Intelligence sections of the Navy Departments at Washington, London and Paris are not altogether in the dark concerning Japan's super-capital ship activities, the potentialities involved are of such vital import as to be at least provisionally met. Hence, following a series of conferences, the United States, Great Britain and France on June 30, 1938 signed a protocol which raised the 1936 treaty agreement on the size limit of battleships from 35,000 to 45,000 tons. France immediately announced that she had no intention of going beyond the treaty total of 35,000 tons unless some other European nation (Germany or Italy) did so. Great Britain, too, shortly after the signing of the protocol dispatched official notes to the effect that she would not go above 40,000 tons. The fact that Great Britain fixed 40,000 tons as her upper limit, coupled with Washington statements to the effect that the United States would not go beyond 35,000 tons in its 1938 program, is taken to indicate that, as escalation progressed, the original Japanese threats became less evident. Battleship size in the United States will continue to be that of 35,000 tons, but the President is permitted to authorize ships up to 45,000 tons if he finds it necessary in the interests of national defense. The immediately foregoing observations tend to indicate that the pace has slowed down somewhat, a result occasioned either as the outcome of spy work in Japan or Japanese recognition that they cannot keep step with at least some other nations. The two new battleships in the 1938 British program will mount guns not greater than 16-inch caliber and they will not exceed 40,000 tons displacement. When the three treaty Powers first began to cooperate to meet the Japanese "menace" they believed—on evidence acquired secretly—that Japan had several huge ships under construction. Great Britain then was more concerned over the possibility that Japan was building over-size cruisers than over the possibility that she was building over-size battleships. During the escalation proceedings something happened to convince the conferees that the cruiser threat had no foundation in fact. Escalation as a result was confined to craft in the battleship category. About the same time proof seems to have become available that Japanese guns were not a threat. Hence early agreement was reached by the conferees that 16 inches should be retained as the maximum gun caliber.

U.S. NAVAL EXPANSION PROGRAM

On Jan. 28, 1938 President Roosevelt, in a national defense message to Congress which sought authorization for a huge increase in naval construction and armament, took full advantage of the occasion not only to point out that the existent status was inadequate for security "in the light of the increasing armaments of other nations," but to inform these latter and the world as a whole that the United States intends to be prepared to defend itself against any aggression. He recommended a long-range program of construction for the navy, associated with which were requests for a 20 per cent increase in authorizations for new building and replacements, and for the laying down during 1938 of two additional battleships and two more cruisers. Two battleships, the *North Carolina* and the *Washington* being already under construction, and another pair covered by the regular Naval Appropriation Bill for the fiscal year 1939, President Roosevelt's recommendation for two more meant six battleships in all as added defense components. For new types of small ships and the preparation of plans for other types of ships, an appropriation up to $15,000,000 constituted a further recommendation in the Presidential message. All of the six battleships will be of 35,000 tons displacement. The President's recommendations imply that the United States will tend to keep pace with Great Britain, a circumstance which received added force from Representative Vinson, chairman of the House Naval Affairs Committee, who, in approving the Presidential message, declared that it was "absolutely imperative that we have and maintain a navy second to none." The program when completed, will give the United States the biggest and most up-to-date navy in its history.

Following the reading of the President's message in both the House and the Senate, Representative Vinson in the former introduced a Bill to give effect to the recommendations for a 20 per cent increase in new construction authorizations. In substance, the Vinson bill sought three more battleships, increasing the existent total to 18; two more aircraft carriers, making eight in all; eight cruisers making a total of 47; 25 destroyers or 147 in all; nine submarines totaling 58; one thousand naval airplanes making a total of 3,000; and 22 auxiliary vessels consisting of five destroyer tenders, three submarine tenders, four large seaplane tenders, seven small seaplane tenders, and three repair ships.

Following a more or less protracted yet exhaustive series of public hearings on the Administration's naval construction program as already outlined, legislative action was completed on May 13 when the Senate approved the agreement entered into by its own and the House conferees. The Naval Expansion Bill was passed in practically the form recommended by the President and was signed by him on May 17. On May 20 President Roosevelt asked Congress to appropriate $23,875,000 to start construction of 13 naval craft, a dirigible, a "mosquito" fleet, nine naval airplanes, and for improvements at three navy yards. Of the total, $16,500,000 was for ships, $3,375,000 for airplanes, $500,000 for the airship, and $3,500,000 for the navy yards. All of the naval craft indicated above are authorized in the new Naval Expansion Act. Included are two light cruisers, mounting 6-inch guns; one large seaplane tender; two small seaplane tenders; one mine layer; one mine sweeper; two oil tankers; two fleet tugs; one aircraft carrier; one three-million cubic foot rigid airship; besides an indefinite number of speedy, experimental torpedo boats and a destroyer tender.

The Second and last Deficiency Bill passed before the 1938 Congress adjourned provided the appropriations necessary to start construction of battleships five and six and at least the equivalent for all of the foregoing. The new Naval Expansion Act authorized an expenditure of $1,156,560,000 during the next ten years.

BATTLESHIP PLACEMENTS AND EQUIPMENT FEATURES

When 1938 ended, the United States had under construction or contract a total of six 35,000 displacement ton battleships. Of these, three have been allocated to navy yards and three to private shipbuilding corporations. Two of those allocated to navy yards in 1937 are in course of construction at New York and Philadelphia. On Nov. 19 Secretary of the Navy Swanson awarded contracts for the construction of two battleships by private shipbuilders at Newport News, Va. and Quincy, Mass. respectively. On the same date, a third battleship was allocated for construction at the Norfolk, Va. navy yard. Battleship No. 58 will be built by the Newport News Shipbuilding and Dry Dock Co. at its bid price of $49,540,000, which does not include the main propelling machinery. This the government furnishes. To this also must be added about $26,000,000, the calculated cost of armament provided by the navy. Battleship No. 59 will be built by the Bethlehem Shipbuilding Corporation at Quincy, Mass. at its bid price of $49,815,000, to which another $26,000,000 must be added for armament. The two ships must be finished and delivered to the navy in 52 and 55 months respectively, following which they will undergo long shake-down and testing periods. The contracts for these two vessels are subject to adjustments for changes in cost of labor and material which may occur during construction. On Dec. 1, the Navy Department signed a contract for another 35,000 displacement ton battleship, thus bringing up to a total of six the number of capital ships under construction or contracted for, and constituting one less than the number building or appropriated for by Great Britain. This latest contract was awarded to the New York Shipbuilding Corporation of Camden, N.J. The contract price which included hull and machinery amounted to $52,794,000. Armor, armament and certain equipment being supplied by the government will bring the completed cost of the vessel to about $70,000,000.

The Camden ship will be known as the *South Dakota,* and its sisters as the *Washington, North Carolina, Indiana, Massachusetts* and *Alabama,* building respectively at Philadelphia, New York, Newport News, Quincy and Norfolk. Each ship will mount a main battery of nine 16-inch guns, three to a turret, two of the latter being forward and one aft. While information regarding the type of propelling machinery to be installed has been more or less fragmentary, it is generally believed that turbines operated with steam of around 600 pounds per square inch pressure and 850 degrees superheat will be adopted. Early in November it became known that some difference of opinion existed in the Navy Department relative to the reliability to be expected from installation of high superheat, high pressure equipment; however, adherents of the latter were understood to have prevailed.

Both on land and sea, steady progress has been recorded in the spheres of high steam pressures and temperatures, to the end that greater efficiencies may be achieved. It may well be taken for granted that equipment to secure reliability has long passed the experimental stage. Besides the information that several German destroyers have installations of propelling machinery employing steam pressures of 1,200 pounds per square inch and 850 degrees temperature, generated through what is known as the Benson type boiler, it may be of interest to point out that an American high pressure, superheat system has so successfully driven two tankers of the Atlantic Refining Co. that a third vessel is projected. Again, according to report, a number of the new destroyers have installations of the high pressure, high superheat type. High pressure and temperature add materially to savings of weight of equipment, water and fuel. Modern engineering practice is of paramount importance to all ship designers whether the problem be a merchantman or a war vessel. In the case of the latter, it goes without saying that the designer must obtain the maximum offensive and defensive effect with the lowest possible tonnage. Our war vessels must have a cruising radius much in excess of that required by their European counterpart and still be able to match gun for gun. In a nutshell, the propelling machinery for our new battleships appears to have resolved itself into a matter of carrying guns and armor on the one hand and water and fuel on the other.

The six new capital ships are understood to be representative of the very last word in battle line craft. In appearance they will be different from any in commission in this or any other country. They will be of greater length, will have lower freeboard than hitherto and will boast two stacks. Anti-aircraft guns, protection against submarine attack, and fire control, besides deck protection against attack from the air, embrace in brief but a few of the installation and equipment features that years of study and experimentation by the Navy Department have devised and proved.

MISCELLANEOUS NEW CONSTRUCTION

On July 1, 1938, 70 vessels belonging to various categories and of various types were under construction in private and navy yards throughout the United States. Of the total, two were capital ships, one an aircraft carrier, one a heavy cruiser, five light cruisers, 17 submarines, three destroyers of 1,850 tons, 31 destroyers of 1,500 tons, one destroyer tender, one large seaplane tender, two small seaplane tenders, one submarine tender, two mine sweepers, and three oilers. These latter are being purchased from the United States Maritime Commission through whose instrumentality and that of the Standard Oil Co., they are being built. On Oct. 7, contracts were awarded by the Navy Department to the New York Shipbuilding Corporation, Camden, N.J. for the construction of an 8,300 ton seaplane tender at a cost of $11,249,000 and a 9,000 ton destroyer tender at a cost of $11,947,000. On July 23, a contract was awarded the Bethlehem Shipbuilding Corporation of New York for the construction of three Diesel-driven fleet tugs of 1,150 tons each, at an individual cost of $1,226,000. On the corresponding date, four 1,500 ton destroyers were allocated for construction in navy yards, two being assigned to Boston and one each to the Puget Sound and Charleston navy yards.

On July 1, contracts were awarded the Electric Boat Co., Groton, Conn. for the construction of submarines No. 198, 199 and 200. Three submarines, one submarine tender, two mine sweepers, and two small seaplane tenders were allocated to navy yards. On July 22, announcement was made by the Navy Department that contracts were being placed with the Bath Iron Works Corporation, Bath, Me. and with the Federal Shipbuilding and Dry Dock Co., Kearny, N.J. for the construction of two each of the 1,500 ton type of torpedo-boat destroyer. On Oct. 10, a $1,655,410 contract for complete sets of main propelling machinery and Diesel-driven generators for navy tenders was awarded the Diesel Engine Division of the General Motors Corporation at Cleveland, O. During the fiscal year ended June 30, 1938, deliveries by private shipyards included two aircraft carriers, two light cruisers. three submarines, two 1,850 ton destroyers and three 1,500 ton destroyers. Three submarines built in navy yards were completed during the period. In addition to the foregoing, the following vessels constructed in navy yards were placed in commission during the year: three light cruisers, eight 1,500 ton destroyers and one submarine.

BUREAU OF CONSTRUCTION REPAIR ACTIVITIES

Plans have been prepared for a wooden submarine chaser, and plans for a steel chaser are being developed at the Philadelphia navy yard. Plans have also been prepared for a special small tender for patrol planes in outlying stations, and construction of one boat has been ordered. Plans were also prepared and construction put in hand on three 45-ft. aircraft rescue boats. Guidance plans for conversion of the destroyers *Childs* and *Williamson* into small seaplane tenders were issued and the conversions ordered at the Philadelphia navy yard. Revision of the contract plans and specifications for the *Dixie* and *Curtiss* to make them applicable to destroyer tender (AD15) and seaplane tender (AV5) were also completed. Preliminary studies have been made for new fleet oilers, looking to the conversion of tankers being built under construction loan and national defense-feature grants by the United States Maritime Commission. With construction progressing satisfactorily, the building of The David W. Taylor Model Basin at Carderock, Md. is expected to be completed in the spring of 1939, at which time a start will be made with the preparations incidental to installation of the rails.

MAINTENANCE OF THE FLEET

Available funds have been sufficient to keep the Fleet in fairly satisfactory condition of material readiness for action. On the older vessels there has continued the increasing necessity for replacing wornout auxiliary machinery such as anchor windlasses and steering engines, weight handling winches and many other items of equipment more or less kindred. Among the more important repair and reconditioning work undertaken were those of a major nature to the cruiser *Omaha,* due to the grounding of that vessel; renewal of wood decks on battleships; recommissioning of the *Trinity* and *Bagaduce;* preparation and transfer of Crane Ship No. 1 from Puget Sound to the New York navy yard. In the matter of fleet improvement, only a small percentage of the alterations carried in approved status were accomplished; the more important of those undertaken consisting of parts of continuing programs which embraced increase of the out-reach and capacity of airplane cranes on cruisers; the installation of hangar doors of improved design on cruisers; and improvement of operation and reliability of steering gears, also on cruisers.

Urgent and desirable changes in all types of vessels estimated to cost $37,000,000 remain uncompleted, Admiral Leahy of the Office of Naval Operations asserted in his annual report. Itemizing the material condition of different types of ships, he pointed out that "a full program of damage control details affecting the water-tight and gas-tight integrity of battleships remains unauthorized and unaccomplished." The battleships *Colorado, West Virginia, Maryland, California* and *Tennessee* require modernization, and the minimum cost, for a partial program only, is estimated to be around $22,000,000. Funds for the modernization of the aircraft carriers *Lexington* and *Saratoga* are to be requested in the 1940 budget.

REHABILITATION OF NAVY YARD FACILITIES AND EQUIPMENT

To aid in accelerating the pace of the current ship construction program in the various navy yards and in anticipation of the larger program just started, a broad and comprehensive plan of plant improvement—buildings, facilities and equipment—has been initiated. Funds for many urgent items embodied in the plan were voted by Congress in the Second Deficiency Bill of 1938. Government expenditures to modernize and increase navy yard ship construction facilities and equipment, thereby contributing directly to the naval expansion program, totals in round figures about $33,425,000. At present, the New York, Philadelphia and Norfolk navy yards on the eastern seaboard can be counted upon to take care of battleship and aircraft carrier construction. The capital ship capacities of the three yards are two, two and one, respectively. In the matter of cruiser, destroyer and submarine construction, all the navy yards are equipped to build vessels in one or more of these categories. By the same token, several private shipyards in addition to those at Quincy, Camden and Newport News can be counted upon.

The expansion program currently under way in the nine navy yards is distributed individually as follows: Portsmouth—addition to storehouse, improvement to shipbuilding ways, and addition to ship fitters' shop, $2,031,572; Boston—addition to pipe shop, extension to structural shop, $2,738,149; New York—turret assembly facilities, shipbuilding ways improvement, addition to structural shop, hammerhead crane, $5.283.406; Philadelphia—turret shop building, extension to structural shop, storehouse, heavy material storage, structural assembly shop, copper and pipe shop, $5,784,548; Washington—improving power plant, general assembly shop, $1,915,000; Norfolk—extension of crane structure, extension of boiler and structural shops, hammerhead crane, $4,020,000; Charleston—new shipbuilding ways, extension to structural shop, extension to machine shop, $2,959,000; Mare Island—foundry building, machine and electric shop, storage facilities, $6,042,306; Puget Sound—smiths' shop, structural steel storage, improvement to power plant, $2,550,608.

CAUTION IN INFORMATION RELEASES

The annual report of the Secretary of the Navy and those of the different departmental chiefs tend to show the extreme caution now being adopted in releasing information to the public. In contrast to other years, the reports are noteworthy for their generalities and absence of specific facts. No real picture of the progress of naval engineering, aeronautics or ordinance can be drawn from the information vouchsafed. In the development of our great armaments program, this, doubtless, is as it should be. Rear Admiral Bowen, Chief of the Bureau of Engineering, although emphasizing the improvements that have taken place in machinery design, makes no mention of the development of high temperature, high pressure populsion installations which have been the subject of more or less official and public controversy. The engineering aspect of the material condition of the Fleet is indicated as being generally satisfactory with steps being taken toward simplification. The battleships *New York, Oklahoma* and *Texas* continue to be handicapped because of their reciprocating engine propulsion installations. Diesel engines are replacing the gasoline type in power boats. During the year, a number of yard craft were equipped with Diesels. To aid in accelerating the pace of the current construction program in the navy yards, and in anticipation of the larger program already started, a broad and comprehensive plan of plant improvement has been drawn.

"TWO OCEAN" NAVY QUESTION

Admiral William H. Leahy, Chief of Naval Operations, in his annual report, indicated that the current naval expansion program should provide a fleet capable of giving the United States a reasonably adequate defense against attack by the now known naval forces of any one of the foreign nations whose naval expansion is already under way. The Admiral's opinion, besides being interpreted as giving tacit support to a further and even more comprehensive expansion program than that now active, was also taken as being possibly indicative of the attitude that might be adopted by the Navy Department, should, as is expected, the "two ocean" navy question again come up in Congress in 1939. It has been considered particularly significant that the Admiral did not affirm that our navy of tomorrow could meet any combined attack against either coast. The "two ocean" navy, originally believed to have been the brain-child of President Roosevelt, although later disavowed by him, is understood to have developed strong support after Congress adjourned. In substance, the "two ocean" navy would consist of two powerful fleets, one in the Pacific and one in the Atlantic, each adequate to meet any combination of sea Powers that might be pitted against it.

DELAYS IN SHIP CONSTRUCTION PROGRAM

Delays in the navy's shipbuilding program were the cause of considerable public criticism during 1938. While Admiral Leahy in his annual report dealt bluntly with the subject, he made no remedial suggestions and made no attempt to analyse the situation. One heavy and five light cruisers have been delayed by late delivery of material, insufficient drafting force and necessary changes while construction was in progress. Completion date of the aircraft carrier *Wasp* was put back about ten months due to necessary changes in structural features and by difficulty in obtaining certain material. The dates of completion of three 1,850-ton and thirty-one 1,500-ton destroyers have been delayed through changes in design and inability of certain vessels to meet trial requirements. Delay in delivery of materials was a further contributing factor. Although the new cruisers *Philadelphia, Brooklyn, Savannah* and *Nashville* were commissioned in the fiscal year ended June 30, 1938, they had been delayed in final preparation for joining the Fleet because of slow delivery of ordnance material. With the exception of the U.S.S. *Holland,* present submarine tenders consist of converted merchant ships and are inadequate for the service, according to the Admiral's report.

INDUSTRIAL MOBILIZATION OF NAVAL NEEDS

Describing the industrial mobilization efforts of the Navy, Admiral Leahy in his report indicated that a start had been made toward the acquisition of certain strategic materials, and that various coordinating policies and plans between the War and Navy Departments have been approved. Coordination has been established with the United States Maritime Commission and contacts have been made with the Machine Tool Manufacturers Association, looktoward a survey of the productive capacity of the machine tool industry. Progress has been made in planning the war-time procurement of the requirements of optical glass and optical instruments, powder and explosives, shells for naval guns, aircraft and aircraft accessories, Diesel engines, storage batteries, aluminum, electrical cable and other important items of munitions.

REOPENING OF WORLD WAR PLANTS

President Roosevelt announced Nov. 4, the Administration's intention to reopen the New Orleans navy yard. He also intimated that, along with other steps being taken to cut delays in the construction of war craft, a $22,000,000 world-war ordnance plant at South Charleston, W. Va. would be reopened. While rapid changes in design constituted the major reason for delays in naval ship construction, the Government wanted and hoped to reduce the elapsed time between appropriations and construction. It was not disclosed what use would be made of the West Virginia plant, idle for some 18 years. It was originally intended for the manufacture of armor plate. Indications were that it would not be used for that purpose when reopened.

In connection with the general speeding up of naval armament, a World War torpedo factory at Alexandria, Va. was in process of being fitted up to aid in the production of underwater projectiles for submarines. Decision to reopen the New Orleans navy yard, inoperative since 1921, gave fresh indication that the "temporary" Atlantic squadron created in September might become a permanent sea force there. In the spring, Admiral Leahy, as Chief of Naval Operations, told a House Committee that the Navy possessed more facilities on the Atlantic Coast than were needed. At that time, however, the Fleet was concentrated in the Pacific. Since then, 38 vessels have been organized into an Atlantic squadron. In the interval, official concern has been expressed because of information that the totalitarian states were seeking expansion throughout South America. This concern was reflected in President Roosevelt's reassertions of the principles embodied in the Monroe Doctrine.

MOSQUITO VESSEL PLANS

Early in July, American naval architects were invited by the Navy Department to submit plans for mosquito craft to be built for experimental purposes under a $5,000,000 appropriation in the Second Deficiency Bill. The vessels are intended for service against submarines and for torpedo attacks at high speed against surface ships. Vessels of the type have been constructed in large numbers by several European nations. Designs were invited for one 165-ft. steel submarine chaser; one 110-ft. wood submarine chaser; one 70-ft. motor torpedo boat of wood or metal, and one 54-ft. motor torpedo boat of wood or metal. Preliminary designs were submitted toward the end of August and from them five designs were selected for each type. The authors had ten weeks in which to complete final designs. For any complete final designs selected, the Navy was to pay $20,000 for the 165-ft. steel submarine chaser and $15,000 each for the other types. Secondary awards ranging from $1,500 to $2,000 were to be paid for unsuccessful designs. On Dec. 8 the Navy Department announced that 12 entrants had qualified and had been instructed to prepare plans for the final competition. Three qualified with designs for the 54-ft. motor torpedo boats; five with designs for the 70-ft. motor torpedo boats; two with designs for the 110-ft. submarine chasers and five with designs for the 165-ft. submarine chasers. No actual construction program for the various vessel types had been formulated.

NAVAL CONSTRUCTION STATUS OF FIVE WORLD POWERS

Of date Nov. 15, 1938, the status of naval construction, building and appropriated for, was disclosed in a series of tables based on official information and covering the United States, the British Empire, France, Italy and Germany. Japan is omitted because her activities remain a closely guarded secret. Her totals, however, in tonnage and type would doubtless be impressive were they disclosed. Combination totals by categories of the above-named five Powers indicate that construction in process included 25 capital ships, 12 aircraft carriers, 44 heavy and light cruisers, 159 destroyers and 106 submarines. The battleship total gives the United States six, the British Empire seven, France five, Italy four, and Germany three. Of the 12 aircraft carriers, the British Empire has five, United States three, France two and Germany two. Italy has no new aircraft carriers under construction. In the heavy and light cruiser category, the United States has ten, British Empire 22, France three, and Germany nine. No cruiser tonnage is shown for Italy. Of the destroyer tonnage, 42 are credited to the United States, 29 to the British Empire, 19 to France, 27 to Italy, and 42 to Germany. Of a total of 106 submarines, the United States has 19, the British Empire 13, France 22, Italy 24, and Germany 28.

Great Britain and Soviet Russia on July 6 signed a protocol bringing their naval agreement of July 30, 1936 into line with the new limit of 45,000 tons for battleships adopted by the United States, Great Britain and France. The 1936 Anglo-Soviet agreement bound Russia to accept most of the limitations of the 1936 London Treaty but left her a free agent with regard to her naval strength in the Pacific where Japan is her potential enemy. On April 27, Great Britain and Poland signed a naval agreement along the lines of the 1936 London Treaty providing limitations for war vessels and for the exchange of naval construction information. In practically every country of the world where tidewater laps the shores, more or less naval activity was noticeable throughout the year. It may be affirmed, however, that in no case was there prospect or possibility of developments to menace world peace. With the exception of the South

American countries, where real worthwhile naval defense planning was in evidence and taking shape, most others were confining their attention to the production or procurement of small, fast and lightly armed motor craft for customs purposes and fisheries protection.

1939 NAVAL APPROPRIATIONS

On Oct. 11, President Roosevelt indicated that current naval construction plans would necessitate an increase of about $150,000,000 in expenditures during the fiscal year beginning July 1, 1939. He pointed out that ships laid down under authorizations voted by Congress in 1938 had cost the Government relatively little because construction was in its early stage. It would, however, be in full swing by the mid-summer of 1939. It was inferred from the President's comment on the subject that, even should there be no authorizations of new construction during the coming session of Congress, the new naval appropriation would be well over $700,000,000 and the largest for any normal peace-time year. The Naval Appropriation Bill, as passed in 1938, carried a total of $550,947,649, of which $4,081,200 was a reappropriation of unexpended funds.

It is not believed that the 1939 Appropriation Bill will call for more new battleships. Under existing authorizations, eight of these can be under construction in 1939, five of them under provisions of the Vinson-Trammell Act of 1933 and three under the naval expansion program passed by Congress in 1938. Prosecution of the work on the six battleships now under construction or contracted for will account to a great extent for the $150,000,000 increase in the 1939 naval appropriation. Six new destroyers and a like number of submarines may, however, be included in the coming bill, these constituting part of a long range program visualized by the Navy. Appropriations for additional naval aircraft are expected to form a major portion of the new bill and may prove to constitute a long step in the program to increase the naval flying arm to not less than 3,000 planes.

It is understood to be the program of the Navy to have all ships for the construction of which the 1938 Congress appropriated funds actually under way when the first session of the Seventy-sixth Congress convenes on Jan. 3, 1939. The building program for the fiscal year 1940 which the new Congress will be asked to legislate into law, although so far undisclosed, is expected to include at least two battleships, at least one aircraft carrier, several cruisers, ten or more destroyers, six to 12 submarines and more fleet auxiliaries. Should Congress decide to create an Atlantic Fleet, which indicates an expenditure of at least $2,000,000,000 over a period of years, an authorization rather than through an appropriation in the regular way would seem to be the method most likely of adoption. The naval aviation program is expected to constitute an important item in the regular Appropriation Bill.

NAVAL AERONAUTICS

By Arthur B. Cook

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AIRCRAFT POLICY AND PERFORMANCE

To provide the Fleet with aircraft of greater effectiveness is the established policy of the Bureau of Aeronautics. Its efforts in pursuance of this policy, during the fiscal year 1938, made available airplanes of greater air- and water-borne qualities, together with greater offensive and defensive power. Aerodynamic and engine research, coupled with development of more effective and powerful armament, has resulted in advancing types of naval aircraft, while at the same time the activities in connection with the development, maintenance, and procurement of aircraft, aeronautical material, and related matters proceeded in an orderly manner and in accordance with the requirements for a Treaty Navy established by the Vinson-Trammell Act. Thus far, procurement has not been advanced by the expansion program established during the 75th session of the Congress.

PROGRAM OF EXPERIMENTAL PROJECTS

A continuous program of experimental projects, within financial limitations, is being carried out to anticipate and fulfill the increased requirements for Fleet operating aircraft. The experimental program of the Bureau of Aeronautics envisions retention of a position ahead of other world Powers, but realization of this objective necessarily is limited by allocated appropriations. However, a supplemental appropriation of $1,268,000 was made to meet unexpected increases in the cost of experimental airplanes. This appropriation has been of inestimable value to the Bureau.

AVIATION APPROPRIATIONS

The following table shows the amounts of the appropriation "Aviation, Navy" for the fiscal year 1938:

Subhead	1938
Navigational, Photographic, Aerological, and Radio Equipment	$ 750,000
Maintenance and Operation, Aircraft and Air Stations	18,796,000
Experiments and Development	4,768,000
Aircraft Construction	27,186,000
Total	$51,500,000

Supplemental appropriations for "Aviation, Navy" were made under the subhead in the amount of $732,000, of which $482,000 is to cover the unexpected increase in the cost of aviation gasoline on the West Coast, and the balance, $250,000, is to improve the landing field of the Naval Air Station, Norfolk, Va.

MATERIAL AND EQUIPMENT

With a view toward further promotion of increased performance of airplanes, the Bureau has continued the exploration of all materials which appear to have possibilities of additional lightness in weight consistent with satisfactory structural and maintenance considerations. New methods of fabrication designed to simplify production and concurrently improve performance of aircraft, such as spot welding and flush riveting, have been adopted. The development of protective coatings to reduce corrosion has simplified maintenance problems. Continued progress has been made in the related aviation fields such as instruments, parachutes, flying clothes, safety devices, armament, radio, and photographic equipment.

AEROLOGICAL INSTRUCTION

The recognized importance of aerological progress has resulted in the development and improvement of instruments, and continued training of 25 enlisted men at the Navy's Advanced Aerographers School and the Elementary Aerographers School at the Naval Air Station, Lakehurst, N.J. In addition, two officers completed the postgraduate course of instruction in aerology and were assigned to aerological duty at sea. In accordance with the Bureau's policy of ordering prospective instructors in aerology at the Postgraduate School to a short course of instruction in the Norwegian methods of weather analysis at the Geophysical Institute, Bergen, Norway, one officer has recently returned to the United States after completing the course. This policy serves to keep the aerological service in touch with the most recent advances in the application of these methods.

ENGINEERING PROGRESS

In spite of the increasing complexity of the duties of personnel operating, servicing, and overhauling aircraft material, a high degree of efficiency has obtained, and, considering the amount of actual operating time, serious engine failures have been few.

Power outputs, both at sea level and altitude, have risen consistently at a rate which compares favorably with that of previous years, while improvement has been obtained in altitude, performance, and reliability.

The rapidly increasing size and power of engines have necessitated the giving of greater attention to the subject of vibration. In consequence, intensive studies and investigations have been made, both of vibration-isolating mounting of engines and the determination of airplane vibration characteristics, to ensure that airplanes are satisfactory in these respects. Further improvements have been made in the procedures for calculating the loads imposed on airplanes and in methods of stress analysis, supplemented and substantiated by laboratory testing of airplane structures.

FLEET AIRCRAFT ACTIVITIES

All naval aircraft tactical units continue to be assigned normally to the Fleet, while training, experimental, and miscellaneous airplanes for administrative requirements are assigned to shore activities.

The Fleet aircraft during the fiscal year 1938 participated in all Fleet problems and tactical exercises; this included the long-range operations of the patrol plane squadrons from San Diego to Seattle, Alaska, Coco Solo, Pearl Harbor, and extended flights on both the Atlantic and Pacific Coasts.

During July, 1937, the Navy conducted extensive search operations in the South Pacific for Amelia Earhart and her co-pilot, F. J. Noonan. Patrol planes and ships from the Hawaiian area were augmented during the search by the U.S.S. *Lexington* with her squadrons.

Aircraft One, Fleet Marine Force, Quantico, Va. flew from that reservation to San Juan, Puerto Rico, in January, 1938 and returned in March. It is of note that the 52 planes were flown to the maneuver area, carried out extensive overseas operations, and returned without any major casualties.

Aircraft Two, Fleet Marine Force, San Diego, California, was taken aboard the aircraft carrier U.S.S. *Ranger* and functioned, for the first time, as a group for a limited training period. As in the case of Aircraft One, participation in the Fleet problem was carried out without casualties.

The policy of delivering new aircraft by air and of ferrying some old aircraft to the East Coast stations for overhaul and return resulted in approximately 350 transcontinental flights during the year. These flights were in addition to the large number of patrol plane deliveries by air.

AIRCRAFT BASES AND COMMISSIONS

Keeping abreast of the increased number of planes on hand, the operating bases at Reeves Field, San Pedro, California, and at Sitka, Alaska, were placed in commission, and two new patrol squadrons, VP-18 and VP-19, were organized. Also, two aircraft carriers were placed in commission, U.S.S. *Yorktown* and the U.S.S. *Enterprise*. Five light cruisers were commissioned; namely, the *Philadelphia, Brooklyn, Savannah, Nashville,* and *Honolulu*. Each of these ships received its proper complement of airplanes.

The lighter-than-air activities, centered at the Naval Air Station, Lakehurst, N.J. consisted of operations in coastal patrol exercises, a demonstration of the adaptability of non-rigid airships for target practice photography, and the testing of an improved system of bow mooring for non-rigid airships. During the year, a number of non-rigid airships were transferred from the Army, and the newest of these, the TC-14, was placed in flying status. The addition of these airships brought the number operating to six, of which two are in an experimental status.

Shore facilities to support the operating aircraft are being developed gradually, but in no measure commensurate with the present and contemplated expansion of the Naval Aeronautic Organization. The concentration of carrier aircraft in the Norfolk area, pending the commissioning of their parent vessels, the

Yorktown and *Enterprise,* focused attention on the need for greater facilities on the East Coast, which had not previously been so evident, due to the almost complete absence of the Fleet from East Coast waters during recent years.

Transfer of the site for the Naval Air Station, Alameda, Calif. to the Navy Department permitted active prosecution of the development of this acutely needed additional West Coast station. Its realization, together with expansion of existing facilities at the Naval Air Station, Seattle, will contribute materially to the relief of West Coast congestion. In similar manner, the commissioning and active development of the Fleet Air Base, San Pedro, Calif. has afforded facilities in the Long Beach-San Pedro area for the intermittent accommodation of battleship- and cruiser-based aircraft. The commissioning of the Fleet Air Base, Sitka, Alaska, will permit the orderly extension of operations north and westward from the Puget Sound area.

PATROL OPERATIONS

The operations of the patrol planes attached to the Aircraft Scouting Force have been seriously hampered by the lack of supporting tenders. Advanced designs of seaplanes, already realized, coupled with expected further developments, will make this problem increasingly important if the possibilities for these craft, in support of fleet operations, are to be explored and utilized to full advantage. The meager number, together with the obsolescent type of ships assigned to this mission, constitutes a handicap which can be removed only by an orderly and rapid replacement program. This shortage will eventually be slightly alleviated by the assignment, during the fiscal year 1939, of two destroyers, the *Childs* and *Williamson,* due for decommissioning, to duty as small seaplane tenders. Conversion of these vessels was initiated in July, 1938. One large seaplane tender, *Curtiss,* is under construction, and it is expected that an additional large seaplane tender and two small seaplane tenders will be laid down during 1939.

NAVAL AVIATION PROJECTS

During the fiscal year 1938, Works Progress Administration funds in the amount of approximately $2,800,000 were allocated for projects of naval air stations and naval reserve aviation bases. These projects have been, mainly, for repairs and improvements, and the funds have allowed undertakings which would not have been practicable within the limit of available naval funds.

Projects of major importance which have been completed and others which have been started have been distributed throughout the shore establishment, as outlined briefly in the following paragraphs.

Development work at the Naval Air Station, Alameda, Calif. is underway, including dredging, filling, grading, and bulkheading together with the construction of a seawall, jetties, and pier.

At the Naval Air Station, Norfolk, Va. surfaced runways were installed on the flying field. Existing accommodations for enlisted men were improved and additional facilities were provided for aviation cadets.

The housing and messing facilities project at the Naval Air Station, San Diego for aviation cadets was completed and contracts were let for the construction and equipment of a barracks and a combined mess hall and barracks for approximately 1,200 enlisted men. In addition, the work necessary for increasing the airplane parking area for patrol planes at North Beach was continued.

A Works Progress Administration program has provided at San Pedro, Calif. improved runways, a barracks and mess hall, and various other buildings and installations necessary to a fleet air base. Present plans call for practically doubling the existing facilities during 1939.

A source of trouble and hazard due to contamination of gasoline fuel at Pearl Harbor, T.H. has been eliminated by the overhaul and piping rearrangement of the distributing system, and officers' quarters are being enlarged and rearranged to provide increased accommodations.

At the Naval Air Station, Pensacola, Fla. the serious shortage of fresh water at Corry Field was relieved by the completion of three new wells. Outlying leased fields for training purposes were materially improved.

The program of improvements for the Naval Air Station, Seattle included such essential items as additional accommodations for patrol planes, quarters for bachelor officers, dispensary facilities, field lighting, and a combined administration and hangar building. These projects were effected during 1938.

The Navy's flight test station at Anacostia, D.C. extended the hangar of the Naval Reserve unit, as well as remodeled the Administration Building to provide for the installation of much-needed air control facilities.

For the past fifteen years, the Naval Air Station at Cape May, N.J. has been on an inactive status. However, during the 1938 fiscal year, the congestion of flying activities at Norfolk, caused by the assembling of the aircraft squadrons of the *Yorktown* and *Enterprise,* necessitated additional operating facilities. Cape May was selected and certain buildings were repaired and runways were improved.

In continuance of the policy of providing aviation facilities in the Caribbean area, the Navy proceeded with the development of the landing field area and of seaplane facilities at the Naval Station, Guantanamo Bay, Cuba, and the provision of the lesser projects necessary to make these undertakings effective upon completion.

The work started in 1937 at St. Thomas, V.I., was continued; namely, extension of hangar and barracks and the increase in water catchment area and storage tanks.

NAVAL AVIATION NEEDS

The activities of the Bureau of Aeronautics, in connection with the development, maintenance, and procurement of aircraft, aeronautic material, and related matters, and of shore facilities proceeded in an orderly manner. However, the need for continued pursuance of these activities is apparent, in view of the present and in anticipation of the increased requirements of the Fleet as a consequence of the Naval Expansion Program.

The outstanding needs of the Aeronautical Organization of the Navy requiring development and initial action are the provision of an adequate number of suitable tenders for patrol planes; the development, as rapidly as possible, of the Naval Air Station, Alameda, Calif.; the provision of new aircraft to replace obsolescent and crash loss; additional funds for experimental purposes; the acceleration of the expansion program, and an increase in naval personnel to meet its requirements.

NAVAL EDUCATION

By Carroll Storrs Alden

Head of Department of English, History, and Government,
U. S. Naval Academy

A CONTINUING PROCESS

With knowledge of the service the United States Navy may be called upon at any time to render, its officers realize that now there can be no stagnation. The aim in all activities is for greater efficiency. At the same time the individual is not lost sight of and his welfare is considered; his physical recreation and health as well as his social and cultural interests are matters of no small concern; this is true of officers and enlisted man alike. The United States Navy is democratic and not totalitarian in organization. There is the education which the Navy Department gives initially to the officer and to the enlisted man but that is not all. There is provision for subsequent periods of study.

For the officer, there are courses of study at approximately ten-year periods: after the Naval Academy at special professional schools, the Postgraduate School at Annapolis, civilian technological schools and universities, and the Naval War College. For the enlisted man, there are special naval training schools and there are prescribed courses that may be pursued aboard ship to gain higher rating or promotion. This is in addition to the education that officers and enlisted men gain from routine duty as they seek to become more proficient in the special task assigned. The rule of recent years is to provide a basic course for all, and then to supplement this for those applying for it and showing ability and fitness.

ADMISSION TO THE UNITED STATES MILITARY ACADEMY

During the year 1938 no one has been commissioned an officer in the line of the Navy who was not a graduate of the Naval Academy. All students there have an official appointment as midshpimen and they gain this after having been properly nominated by meeting the entrance requirements. The following have the privilege of nominations: each United States Senator, Representative, and Delegate, four candidates (the candidates on meeting the entrance requirements have their appointments for the course of four years, and further nominations in this group can not be made until vacancies occur through graduation, resignation, etc.); the President, candidates such as may be appointed from the District of Columbia, also 15 candidates selected annually by competitive examination, commonly from the sons of officers in the Army, Navy, and Marine Corps. In addition 50 may be appointed annually from the Naval Reserve and the Marine Corps Reserve; 20 annually from honor graduates of military schools and the Naval Reserve Officers' Training Corps; and 100 annually from candidates selected by competitive examination from enlisted men in the Navy and the Marine Corps. Still further, a limited number may be appointed from among the sons of officers, soldiers, sailors, and marines of the Army, Navy, and Marine Corps killed in the World War, or dying as the result of wounds or injuries contracted in the War; and from candidates in Puerto Rico and the Philippines who have been properly nominated.

STUDENT QUALIFICATIONS

Candidates must be American citizens of not less than 16 nor more than 20 years of age on the first of April of the year they expect to enter, and they must meet the prescribed physical and mental requirements. The mental requirement is similar to that of the leading scientific and technological schools, and all candidates are subject to the rather exacting entrance examinations except those who have satisfactorily completed a year's study in an accredited university, college, or technological school and who have taken courses in subjects prescribed. Information on these particulars is set forth in the pamphlet, "Regulations Governing the Admission of Candidates into the United States Naval Academy," which may be obtained by applying to the Chief of the Bureau of Navigation, Navy Department, Washington, D.C., or to the Superintendent of the United States Naval Academy, Annapolis, Md.

STATUS AND PAY OF MIDSHIPMEN

A midshipman is an officer in a qualified sense. He is subject to the rules and regulations of the Navy Department but is ordinarily not sent to sea except during the summer on a practice cruise. On being admitted to the Academy, he makes a deposit of $100 which is used in part payment of the uniforms, clothing, and textbooks he immediately requires. The deposit is not refunded but there is no further expense. He takes an oath to uphold and support the Constitution, and his pay begins. This is $780 a year and 75 cents a day for rations. About $250 of his pay each year is set aside to provide the uniforms of the commissioned officer that will be required after graduation. The larger part of his pay is used to meet the general expenses incident to being a midshipman. A small allowance he may draw each month for spending money, and he finds that provision is made for funds for sightseeing in foreign countries on the summer practice cruise and also for going home at the time of the annual September leave.

U.S. NAVAL ACADEMY CURRICULUM

The four-year course of study corresponds in general features with that of the leading colleges and technological schools except that the curriculum is virtually the same for all and it has as its sole aim the education of naval officers. The work is distributed among the following departments: Executive; Seamanship and Navigation (including aviation, tactics, and military law); Ordnance and Gunnery; Marine Engineering (including mechanical drawing and naval construction); Electrical Engineering (including chemistry, physics, and radio); Mathematics; English, History, and Government; Languages; Hygiene; and Physical Training. The first five are strictly professional and they give instruction that is both theoretical and practical. Drills in these departments have an important part in the daily routine during the academic year, from the last of September to the last of May, and occupy the greater part of the time during the summer. The newly entered midshipman spends all of his first summer at the Naval Academy and is taught infantry drill, rowing, swimming, and firing on the rifle range. The last five departments mentioned deal with the fundamental principles regularly taught in their subjects elsewhere, but their courses are planned so as to be closely related to the requirements of the future naval officer. The Executive Department is the one that is most intimately associated with the daily life of the midshipman and is in charge of all formations, infantry drills, extra-curricular activities, entertainments, maintenance of health and high moral standards, teaching of thrift and personal economics, inculcation of responsibility and sense of duty, and indoctrination in naval customs and principles of leadership. The Physical Training Department teaches symmetrical physical development, correct posture, swimming, and athletic sports. All midshipmen on graduation are awarded the degree of Bachelor of Science.

SUMMER PRACTICE CRUISE

Midshipmen of the First Class and the Third Class, totaling 1,149, departed June 3, 1938 for a three months' cruise to Europe. Three battleships were assigned for the cruise and they visited Le Havre, France, Copenhagen, Denmark, and Portsmouth, England. During the ten days the squadron lay at anchor at Le Havre midshipmen were granted leave of five days to go on conducted tours: some to Paris, others to the Chateau Country and Paris. In addition many obtaining short leave went to Mont St. Michel. Similarly, during the five days at Copenhagen they had opportunity not only to see the palaces, museums, and other objects of interest in the city, but also to visit Roskilde, Frederiksborg, and Elsinore. In the eight days at Portsmouth their free time was devoted chiefly to Portsmouth and cities near by, the Shakespeare Country, and London—some even taking extensive motor trips to Scotland. A few days in New York before the squadron returned to Annapolis gave them opportunity to see something of their own country. Meanwhile the Second Class of 510 midshipmen, spending a considerable part of the summer in Annapolis, also had a coastal cruise. The several destroyers which were assigned for this took the entire Class, one-third at a time, for practice at sea. The other two months of the summer at the Naval Academy they devoted to aviation, navigation, and executive duty. In aviation each midshipman had ground work instruction and also 10 hours or more of airplane flight when he had charge of almost everything except handling of the controls.

THE ACADEMY FACULTY AND ITS GENERAL AIMS

The administrative and teaching staff of the Naval Academy is composed of officers from the Fleet, detailed for two or three years of duty, and also of civilian professors and instructors who commonly have a much longer tenure. Public lecture courses bring university professors and men of affairs distinguished in history, literature, economics, and government. The Naval Academy maintains high scholastic standards but above all else is a school of leadership. It aims to develop military and personal character, and exists to educate and train officers first of all for service in the Fleet. Believing that love of the sea is an essential characteristic of the successful naval officer, the administrative officers of the Academy have emphasized the water activities and have made every effort to improve the floating equipment for training and recreational purposes. They have fostered also not only the ordinary outdoor sports but social affairs and musical entertainments of high quality as contributing to general health, breadth of interest, and culture.

NEW ACADEMY BUILDINGS

To meet the increased needs of the Academy, the Government has authorized many new buildings, and construction to be compared with that following the Spanish-American War and the World War has begun. This will provide a museum, a dispensary, a laundry, a large addition to the chapel, a rebuilt and much improved mess hall, 14 six-apartment houses for officers, an additional heating plant, and the replacement of temporary war time construction at the Naval Hospital by permanent buildings.

GENERAL AND SPECIALIZED STUDY

The teaching of the class-room gives place to more practical instruction when the midshipman is graduated from the Naval Academy and receives his commission as an ensign. But there will still be many periods in his career when he will again court his books and become the student. Before each promotion in rank, he must pass a qualifying examination, and at fairly regular intervals he has opportunity to attend special schools for advanced study. Officers desiring to enter certain of the staff corps may volunteer after completing their first two years of sea duty. Those selected as assistant naval constructors are sent to the Massachusetts Institute of Technology for three years; those selected as assistant civil engineers are sent to the Rensselaer Polytechnic Institute at Troy, N.Y. for three years; and those selected as assistant paymasters are sent to the Naval Finance and Supply School for one year. It is a part of the general educational plan of the Navy Department to send all junior officers of the line, on completing about the first seven years of sea duty, to the Postgraduate School of the Naval Academy to take the general line course, but the needs of the Fleet and the shortage of officers combine to reduce the number.

The General Line Course prepares for duties as heads of departments aboard ship and for general executive duties. The basic course is the same for all in professional subjects and also in economics, American diplomatic policy, and international relations. This is supplemented by a special course in the field in which the officer is majoring: navigation, communications, marine engineering, ordnance and gunnery, aeronautical engineering, and aerological engineering. Certain officers on duty in the office of the Judge Advocate, Washington, are designated to take a three-year course of law at The George Washington University. A few specially qualified are sent to the Orient to study the Japanese or the Chinese language, and a few also to Europe to study the Russian language. A large number receive instruction to the end that they may acquire special knowledge and skill in one of the following: submarines (New London, Conn.), torpedoes (Newport, R.I.), optical instruments (Navy Yards, Washington, D.C. and

Mare Island, Calif.), and gyro compass (Navy Yards, New York and Mare Island). Incidental to the aviation training given to the midshipmen at the Naval Academy is an examination to determine who are physically qualified for aviation. Two years after graduation ensigns interested in heavier-than-air aviation go to Pensacola and take a course of 11 months for pilots. Those interested in lighter-than-air aviation go to Lakehurst. During the year 251 officers of the Navy and Marine Corps were under aviation training and 84 qualified as naval aviators; also 751 aviation cadets were under aviation training at Pensacola and 279 qualified as naval aviators.

THE NAVAL WAR COLLEGE

Three courses are comprised in the work of the Naval War College at Newport, R.I.: the junior course for officers up to the rank of lieutenant commander in the minor operations of war, 15 completing the course in 1938; the senior course for commanders and above in handling and maintaining large fleets over extensive theatres of war and in fleet engagements, 48 completing the course; and the advanced course for commanders and above in planning and in joint Army-Navy operations, five completing the course. A few army and marine officers attend the Naval War College at Newport, and a few naval and marine officers attend the Army War College at Washington. The Naval War College also conducts correspondence courses for officers not in attendance at the college in international law and in strategy and tactics; 822 officers completed these courses.

NAVAL RECRUITS

To provide for a slight increase in the size of the Navy authorized by Congress, as well as to fill the vacancies due to the expiration of the term of service and other causes, 16,333 first enlistments were made and these were men selected out of 172,000 applicants; that is, slightly less than 10 per cent were accepted. Comment is frequently made of the high quality of the enlisted personnel in the Navy and the Marine Corps. Only men who have had a substantial education (a large number being graduated from high school), who are strong physically and who can give evidence of good moral character are today accepted. The recruits have their training at one of the four stations—Norfolk, Va., Newport, R.I., Great Lakes, Ill., and San Diego, Calif. The initial course for all extends over 12 weeks and is concerned with the following: (a) personal cleanliness, (b) care of clothing, (c) infantry drill, (d) rowing, (e) swimming, and (f) small arms. Upon its completion a certain number who have shown especial aptitude are selected for the service schools to receive training as will be indicated. The others are sent aboard ships to continue their training. After four months of training they may be advanced from the rating apprentice seaman to seaman second class or fireman third class.

SERVICE SCHOOLS FOR ENLISTED MEN

There are three large classes of service schools. Class A Schools provide elementary instruction to recruits that will make them immediately useful aboard ship and give them the ground work for the lowest petty officer ratings. The length of courses is from 16 to 20 weeks, except for the School of Music which continues 104 weeks. One group is studying for ratings such as electrician's mate, gunner's mate, torpedo man, etc.; another group for ratings as radio man, quartermaster, yeoman, etc.; and still another for ratings as machinist's mate, blacksmith, aviation carpenter's mate, etc. Class B Schools supplement the training afloat by giving advanced instruction ashore. Courses from six to 40 weeks' duration are in fire control, torpedo, electrical interior communication, gyro compass, cooking, stenography, etc. Class C Schools give advanced training for particular duty assignments in subjects not normally a part of shipboard instruction. Courses from four to 34 weeks' duration are for the following: aerographers, deep sea divers, dental technicians, aviation ordnance men, submarine men, optical men, etc. Included in the Class C division is the Naval Academy Preparatory School at Norfolk, Va. One hundred enlisted men of the Navy and Marine Corps, if they can qualify in all particulars, are appointed midshipmen in the Naval Academy. As they must pass the same examination as other candidates, this school affords the opportunity needed for preparation. In the three classes of service schools 5,687 enlisted men were admitted and 4,820 were graduated. In addition to this the enlisted forces afloat showed their interest in working for advancement in rating. Courses covering almost every naval activity have been issued by the Bureau of Navigation. The following were prepared for printing during the year: apprentice seaman, aviation machinist's mate (third class), general training course for petty officers (third and second class), machinist's mate (second class), radioman (third class), ship's cook (third class), and torpedoman (third class).

THE NAVAL RESERVE

The Naval Reserve is designed to provide the necessary officers and men for the wartime increase of naval activities during the first 120 days after mobilization. After this time it is expected that the additional requirements of officers and men will be provided by recruiting and selective service and will be trained by the various training stations and schools now in existence or to be set up in case of national emergency. Each naval district is assigned a quota of Naval Reserve officers and men of the various classes for procurement and assignment to mobilization requirements. On June 30, 1938, the Naval Reserve comprised altogether 12,578 officers and 40,012 enlisted men. There are 149 actively drilling divisions of the Seagoing Organized reserve located in 82 cities of the continental United States and Hawaii. There are also 16 actively drilling squadrons of the Aviation Organized Reserve located in 13 cities. Inspection of the various seagoing and aviation units are made annually by a board of regular naval officers. The Naval Reserve is organized in four classes: Fleet Reserve, Organized Reserve, Merchant Marine Reserve, and Volunteer Reserve. The Fleet Reserve consists of long-service men who have been transferred or assigned direct from the regular Navy. The Organized Reserve is composed of members who are qualified for immediate service with combat units afloat in time of national emergency and consists of seagoing and aviation units. The Merchant Marine Naval Reserve is composed of licensed officers of the American Merchant Marine. The Volunteer Naval Reserve consists of individual officers and enlisted men available for service in time of emergency in a particular capacity. The Organized Reserve is required by law to perform weekly armory drills, and in addition 14 days' active training duty annually.

NAVAL RESERVE OFFICERS' TRAINING CORPS

Units have been organized and maintained at the following institutions: Harvard University, Yale University, Northwestern University, Georgia School of Technology, University of California at Berkeley, and University of Washington. So successful has been their work that legislation of 1938 has increased the total size of the Corps from 1,200 to 2,400 students. Two new units are in process of establishment at Tulane University at New Orleans and the University of California at Los Angeles. The plan is soon to establish three additional units. The course of study in Naval Science and Tactics averages four hours a week for four years, with at least one summer practice cruise in a combatant ship. The subjects taught are nautical astronomy and navigation, electrical and marine engineering, infantry, ordnance and gunnery, seamanship, communications, naval history, military law, aviation, and administration. Upon completion of the course and the award of a college degree, the student is eligible for commissioning in the United States Naval Reserve, United States Marine Corps Reserve, or for appointment as Aviation Cadet. During the summer of 1938 freshmen and sophomores of the University of California and of Washington cruised in the U.S.S. *Oklahoma* to Hawaii, and the juniors in destroyers to Alaska. Students of other universities cruised in the U.S.S. *Arkansas* and in destroyers to Cuba and East Coast ports. The Chief of the Bureau of Navigation observes in his annual report: "The caliber of these graduates is very high, and they are considered excellent war-time officer material, second only to graduates of the Naval Academy."

PERIODICAL PUBLICATIONS

Army and Navy Journal
1701 Connecticut Ave. N.W., Washington, D.C.
Army and Navy Register
511 Eleventh Street N.W., Washington, D.C.
Army Ordnance
Mills Building, Washington, D.C.
Cavalry Journal
1624 H. Street N.W., Washington, D.C.
Coast Artillery Journal
1115 Seventeenth Street N.W., Washington, D.C.
Field Artillery Journal
1624 H. Street N.W., Washington, D.C.
Infantry Journal
1115 Seventeenth Street N.W., Washington, D.C.
Marine Corps Gazette
United States Marine Corps, Washington, D.C.
Military Engineer
Mills Building, Washington, D.C.
Quartermaster Review
923 Fifteenth Street N.W., Washington, D.C.
U.S. Coast Guard
462 Indiana Ave. N.W., Washington, D.C.
U.S. Navy Magazine
Long Beach, Calif.
Waterways Journal
1605 Chemical Building, St. Louis, Mo.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

SERVICE SOCIETIES

AMERICAN LEGION, National Headquarters, 777 N. Meridian Street, Indianapolis, Ind.
AMERICAN REMOUNT ASSN., 810 18th Street, N.W., Washington, D.C.
AMERICAN SOCIETY OF NAVAL ENGINEERS, Bureau of Engineers, Navy Department, Washington, D.C.
ARMY ORDNANCE ASSN., Mills Bldg., 17th St. and Pennsylvania Ave., Washington, D.C.
ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, Army Medical Museum, Washington, D.C.
CHEMICAL WARFARE SERVICE, Edgewood Arsenal, Maryland.
NAVY LEAGUE OF THE UNITED STATES, Mills Building, Washington, D.C.
QUARTERMASTERS' ASSN. OF THE UNITED STATES, 923 15th Street, N.W., Washington, D.C.
RESERVE OFFICERS ASSN. OF THE UNITED STATES, 1653 Pennsylvania Ave., N.W., Washington, D.C.
SOCIETY OF AMERICAN MILITARY ENGINEERS, 808 Mills Bldg., Washington, D.C.
SOCIETY OF NAVAL ARCHITECTS & MARINE ENGINEERS, 29 W. 39th Street, New York City.
UNITED STATES CAVALRY ASSN., 1624 H. Street, N.W., Washington, D.C.
UNITED STATES FIELD ARTILLERY

Assn., 1624 H Street, N.W., Washington, D.C.

United States Infantry Assn., 1115 17th Street, N.W., Washington, D.C.

United States Naval Institute, Annapolis, Md.

PATRIOTIC AND HEREDITARY

Colonial Dames of America, 421 E. 61st Street, New York City.

Daughters of 1812 U. S. National Society, 1461 Rhode Island Ave., N.W., Washington, D.C.

General Organization, Sons of Confederate Veterans, 609 Law Bldg., Richmond, Va.

General Society of Colonial Wars, 1500 Walnut St., Philadelphia, Pa.

General Society of Mayflower Descendants, 420 Lexington Ave., New York City.

Founders and Patriots of America, Fifth Ave. and 59th St., New York City.

National Society of the Daughters of the American Revolution, Memorial Continental Hall, Washington, D.C.

Military Order of Foreign Wars of the U.S., 4 West 43d Street, New York City.

Military Order of the Loyal Legion, 4 West 43d Street, New York City.

Military Order of the World War, 1700 Eye St., N.W., Washington, D.C.

National Security League, 45 West 45th Street, New York City.

National Society of the Sons of the American Revolution, 1227 16th St., N.W., Washington, D.C.

Naval and Military Order, Spanish-American War Veterans, 184 State House, Boston, Mass.

Pilgrim Society, Pilgrim Hall, Court Street, Plymouth, Mass.

Society of the Cincinnati, 136 W. Lanvale Street, Baltimore, Md.

Sons of Union Veterans of the Civil War, Colonial Trust Building, Reading, Pa.

United Confederate Veterans, 1528 Lowerline St., New Orleans, La.

United Spanish War Veterans, 40 G St., N.E., Washington, D.C.

Veterans of Foreign Wars of the U.S., Broadway at 34th St., Kansas City, Mo.

PART FOUR

ECONOMICS AND BUSINESS

DIVISION X

BUSINESS AND FINANCE

ECONOMIC AND BUSINESS CONDITIONS

By S. S. Huebner

Professor, University of Pennsylvania

BETTER BUSINESS FOLLOWS DEPRESSION

The 1937 issue of The American Year Book explained how optimism prevailed in business as well as in the security market during the first months of 1937, and how hopes were shattered during the later months. In the order of time, the year was characterized as a feast-famine year. The year 1938 may be given a similar characterization, except in reverse order, namely, that it was at first a famine year and subsequently a year of moderate improvement. In fact, with respect to all of the many industrial and financial barometers discussed in this section, 1938 may be clearly divided into two periods, namely, the first five months as a period of decline, representing a continuation of the depression which began in 1937, and the last seven months as a period of moderate business revival. The recovery following the middle of the year, although moderate, was gradual and persistent, and the year closed with most of the records at the highest point of the year. For the year as a whole totals are considerably behind the totals for 1937 owing to the prosperous conditions which prevailed during the first half of that year and which could not be over-balanced statistically by the improved figures of the latter half of 1938. In other words, the important feature of 1938 is not the extent of the betterment during the last six months, but rather the apparent tendencies for good indicated by the improving figures. As summarized by the Guaranty Trust Company of New York (*The Guaranty Survey,* Dec. 27, 1938):

"Because of the rising trend of business activity in the last several months, the year 1938, viewed as a whole, may be considered as having brought distinct net improvement in most branches of trade in the United States. Seldom, even during the recovery period, have general conditions at the end of a year made such a favorable contrast with those twelve months earlier. This progress is the more encouraging in that it has been achieved in the face of a bewildering complex of problems and uncertainties at home and abroad. At the same time, the satisfaction with which business may properly contemplate the record of 1938 must be tempered by recognition that many of these difficulties remain to cloud the outlook and that some of them have probably been aggravated, rather than lightened, by the year's developments.

"The general level of business activity in 1938 has, of course, been much lower than in 1937. The index of the Guaranty Trust Company for the first eleven months of the year (on the basis of the preliminary figure for November) stands at an average of 71.0, as against 91.9 for the whole of last year. In each of these months except November the level has been lower than that for the corresponding period in 1937, and the preliminary November figure is only fractionally above that for November a year ago.

"The significant contrast between the present situation and that a year ago lies not in the level of activity but in the trend. At the end of 1937, industrial output and trade volumes had been decreasing steadily for nearly five months at one of the swiftest rates on record, with no prospect of immediate improvement; and business had become aware that it was undergoing not a minor readjustment but a major recession that threatened to wipe out the greater part of the gains so slowly and arduously achieved during the preceding five years. At present, on the other hand, activity has been increasing continuously for nearly seven months, although at a pace by no means equaling that of the decline.

"As far as business tendencies are concerned, the year 1938 may be divided into two well-defined parts. The first five months witnessed the final phases of the recession that began in 1937. During that period the downward movement continued, but at a much reduced rate. The low point was reached in May and early June at a level probably representing a loss, over a period of ten months, of at least two-thirds of the gains previously made in the course of the entire recovery period.

"In the last seven months the revival has proceeded with only minor interruptions and has apparently regained at least half of the ground lost in the recession."

AGRICULTURE

Department of Agriculture reports show that for 1938 the average yield per acre for the nation's leading crops was unusually high, but at the same time the acreage actually harvested was smaller than usual. To quote *The Guaranty Survey's* (Dec. 27, 1938) interpretation of this year's financial report, after balancing acreage and yield per acre: "The net result was that the aggregate farm output per capita was below that for the ten-year period immediately preceding the drought of recent years. Crop yields per acre this year, according to the report, were nearly 11 per cent above the average for the 1923–32 period, but the acreage harvested was 3½ per cent below the average. While total crop production is estimated at 104.8 per cent of the average for the 'pre-drought' period, the population has increased 9.6 per cent during the interval, so that the output per capita appears to be at least 4 per cent below the average figure for 1923–32."

Prices of leading farm products at the close of 1938 varied but slightly from the December prices of 1937. Thus for cattle the December, 1938 price was $10.15 per 100 lbs. as compared with $8.60 for the same month in 1937; for hogs $7.20 as compared with $7.90; for corn 53⅜ cts. compared with 59¾ cts.; for wheat (No. 2 red Chicago) 66⅝ cts. compared with 97¾ cts.; and for cotton 8.47 cts. per lb. compared with 8.31 cts. Anticipated cash farm income during 1938, including Government payments, is placed at $7,600,000,000 as compared with $8.600,000,000 in 1936. However, the 1938 farm income, as reported, is still $3,250,000,000 or 75 per cent above that for 1932, the low point of the depression.

MANUFACTURING AND MINING INDUSTRIES

In these industries, where the output of product is more subject to control than in agriculture, the price declines were also considerable. Comparing December, 1938 with the same month of 1937, the following price changes, mostly decreases, may be

INDEX NUMBERS OF COMMODITY PRICES

(Source: U. S. Dept. of Labor—*Survey of Current Business*)

(Source: U. K. Board of Trade—Barclay's Bank Ltd. *Monthly Review*)

	U. S. Dept. of Labor		U. K. Board of Trade	
	1937	1938	1937	1938
Jan.	85.9	80.9	102.9	107.7
Feb.	86.3	79.8	103.9	105.8
March	87.8	79.7	107.3	104.1
April	88.0	78.7	109.0	103.1
May	87.4	78.1	110.7	102.0
June	87.2	78.3	110.6	100.7
July	87.9	78.8	111.5	100.6
Aug.	87.5	78.1	111.4	99.5
Sept.	87.4	78.3	111.2	98.4
Oct.	85.4	77.6	110.6	99.1
Nov.	83.3	....	108.5	....
Dec.	81.7	....	107.6	....

YEARLY AVERAGE

(U. S. Dept. of Labor)

1904......	59.7	1921.....	97.6
1905......	60.1	1922.....	96.7
1906......	61.8	1923.....	100.6
1907......	65.2	1924.....	98.1
1908......	62.9	1925.....	103.5
1909......	67.6	1926.....	100.0
1910......	70.4	1927.....	95.4
1911......	64.9	1928.....	96.7
1912......	69.1	1929.....	95.3
1913......	69.8	1930.....	86.4
1914......	68.1	1931.....	73.0
1915......	69.5	1932.....	64.9
1916......	85.5	1933.....	66.0
1917......	117.5	1934.....	75.0
1918......	131.3	1935.....	80.0
1919......	138.6	1936.....	80.8
1920......	154.4	1937.....	86.3

selected from the many listed in *The Guaranty Survey* (December issue): Coffee 7¾ cts. per lb. as compared with 8½ cts.; copper 11.12½ cts. per lb. compared with 10.12½ cts.; cotton 8.47 cts. per lb. compared with 8.31 cts.; hides 12 cts. per lb. compared with 14½ cts.; pig iron $20.50 (per gross ton) compared with $23.50; steel billets (Pittsburgh) $34.00 per gross ton compared with $37.00; lead 4.75 cts. per lb. compared with 5.00 cts.; petroleum (Pennsylvania) $1.68 per bbl. compared with $2.20; rosin $4.20 per 280 lbs. compared with $5.35; rubber $.16⅛ per lb. compared with $.14⅞; silk $1.90½ per lb. compared with $1.56½; sugar 2.85 cts. per lb. compared with 3.20 cts.; tin 46.35 cts. per lb. compared with 43.25 cts.; wool $.73 per lb. compared with $.75; zinc 4.50 cts. per lb. compared with 5.00 cts.

NEW CAPITAL FLOTATIONS

New financing continued during 1938 in the same scale of utter stagnation that was the case during 1937, 1936, and 1935. The total of new capital financing for the first 10 months of 1938 aggregated only $735,947,000 as compared with $1,154,135,000 for the corresponding period of 1937. The smallness of the year's new capitalization is also indicated by comparing it with the yearly totals of $1,215,000,000 for 1936, $4,494,000,000 for 1930, and $8,639,000,000 for the banner year of 1929. However, the

CORPORATE FINANCING

(Source of Data—*Survey of Current Business*)

	1937		1938	
	Capital	Refunding	Capital	Refunding
January...........	$102,456,000	$203,517,000	$45,533,000	$3,773,000
February..........	129,842,000	224,521,000	40,802,000	62,225,000
March............	137,589,000	181,055,000	23,995,000	57,643,000
April.............	85,227,000	86,535,000	12,313,000	66,500,000
May..............	78,153,000	87,210,000	35,872,000	25,692,000
June..............	268,946,000	149,341,000	198,866,000	95,034,000
July..............	81,951,000	56,781,000	129,061,000	51,545,000
August...........	49,398,000	56,136,000	124,696,000	211,141,000
September........	112,182,000	39,386,000	60,887,000	49,136,000
October..........	66,647,000	69,653,000	63,922,000	273,237,000
November.........	26,942,000	10,120,000	....	....
December.........	42,767,000	14,463,000	....	....

year's record greatly exceeds the exceedingly small figures prevailing during the height of the previous depression period, namely, 1932–35. It is also interesting to note that the poor showing of 1938 is largely attributable to the first five months when new capitalization amounted to only $158,575,000 as compared with $533,267,000 for the same months of 1937. As is the case in so many of the other barometers, the later months of 1938 showed up better than the same months of 1937, but much more poorly during the early months.

YEARLY TOTALS

	Capital	Refunding
1938	*$735,947,000	*$895,926,000
1937	1,182,100,000	1,178,718,000
1936	1,214,951,000	3,391,997,000
1935	403,569,958	1,863,858,807
1934	178,257,949	312,836,500
1933	160,717,178	220,866,478
1932	325,361,625	318,533,720
1931	1,763,448,723	825,516,700
1930	4,944,403,166	528,875,877
1929	8,639,439,560	1,386,921,569
1928	6,079,602,416	1,738,274,615
1927	5,391,008,544	1,928,187,260
1926	4,357,002,720	942,550,970
1925	4,100,725,167	637,384,524
1924	3,322,295,764	516,275,300
1923	2,712,996,155	530,345,942

* For 10 months.

BANK CLEARINGS

During 1938 clearings showed a substantial increase towards the end of the year, the grand total for the week ended Dec. 24 (as reported by the *Commercial and Financial Chronicle*) for 112 cities being $6,628,009,098 as compared with $5,308,000,000 for 1937, $6,477,000,000 for 1936, $5,056,000,000 for 1935, and $4,333,000,000 for 1934. As usual New York City represents the larger share of the clearings, all cities outside of New York representing collectively only $2,731,000,000 out of the grant total of $6,628,000,000 for the nation, including New York City. For the week ended Dec. 24, 1938, the tabulation below shows substantial increases for all Federal Reserve centers in comparison with the corresponding week of 1937.

For 1938 as a whole total clearings ($293,000,000,000) shows a decrease of 12 per cent as compared with 1937 ($333,000,000,000). Outside New York City the annual clearings also show a decrease of 12 per cent, *i.e.* $128,000,000,000 as compared with $146,000,000,000 for 1937.

THE SECURITY MARKETS

The description of the 1938 security markets is dismal for the first half of the year but decidedly more cheerful for the latter half. The bear market of 1937 was continued into 1938 for approximately six months. Twenty railroad stocks (Standard Statistics Company *Index*) declined from an average of 32.6 for December, 1937 to a low of 22.7 for July, 1938, and subsequently rose to an average of 31.7 for November, 1938 (the latest monthly average obtainable). Fifty industrial stocks declined from an average of 106.4 for December, 1937

Federal Reserve District	1938 (millions)	1937 (millions)	Increase or Decrease %
Boston (12 cities)	$281	$209	+34.6
New York (13 cities)	4,021	3,198	+25.7
Philadelphia (10 cities)	433	340	+27.5
Cleveland (5 cities)	316	258	+22.2
Richmond (6 cities)	150	119	+25.6
Atlanta (10 cities)	185	146	+26.9
Chicago (18 cities)	510	407	+25.3
St. Louis (4 cities)	161	125	+21.1
Minneapolis (7 cities)	99	89	+12.0
Kansas City (10 cities)	141	121	+17.1
Dallas (6 cities)	79	64	+22.7
San Francisco (11 cities)	260	231	+12.3
Grand Total (112 cities)	$6,628	$5,308	+24.9
Outside New York City	$2,731	$2,211	+23.5

to a low of 97.5 in May, 1938, and subsequently rose to 129.1 in November, 1938. Twenty public utility stocks declined from 60.9 in December, 1937 to a low of 51.6 in April of 1938, and subsequently rose to a high average of 66.4 for November 1938. Seven copper and brass stocks declined from the December, 1937 average of 129.2 to a low of 103.6 for June, 1938 and subsequently advanced to 165.8 in November, the high of the year. All of the aforementioned 90 stocks, when combined, declined between December, 1937 and April, 1938 from 87.5 to 78.5, and subsequently rose to 103.8 in November, the high of the year. Sixty bonds (Standard Statistics Company *Index*) likewise declined from a high average of 83.6 in December, 1937 to 75.3 in April, 1938, and subsequently rose to a high average of 83, the highest level for the year. Stock sales on the New York Stock Exchange totalled only 269,974,000 shares as compared with 409,468,885 shares during 1937 and 496,063,000 shares during 1936. As has so frequently been pointed out in previous issues of THE AMERICAN YEAR BOOK, the stock market is a discounter of future business conditions, and from that standpoint the rise of security prices during the last half of the year may be a forerunner of better business for the future.

RAILROAD INDUSTRY

Again, as has been the case so frequently, attention must be called to the unfortunate position of the railroads which, as a national pivotal industry, have probably suffered as great reverses as any leading economic endeavor. According to the American Railway Association, the average weekly revenue freight car loadings totalled only 579,478 for the first 10 months of 1938 as compared with 551,184 for the corresponding period of 1937, 685,438 for 1936, 604,749 for 1935, and 599,609 for 1934. Here again the unfavorable showing of 1938 is attributable to the record of the first half of the year, although there was a distinct improvement during the later months of the year. Thus, for February, the weekly average stood at only 538,863, whereas for October (the latest available) the average had risen to 708,396, as compared with 803,464 for the same month of 1937, the highest figure for any month in that year. Monthly idle freight car figures also averaged 283,000 cars for the first 10 months of 1938 as compared with 128,000 and 183,000 cars for the corresponding periods of 1937 and 1936. Railroad gross and net earnings per mile for the first nine months of 1938 stood at only $10,912 and $2,378 as contrasted with $13,460 and $3,475 for the same months of 1937, and $12,395 and $3,242 for the like period of 1936.

EXPORTS AND IMPORTS

This branch of economic activity showed up unfavorably during 1938, exports totalling only $2,825,454,000 for the first 11 months of the year and imports $1,789,045,000. The two items showed losses of nearly $200,000,000 and $1,085,000,000 as compared with 1937. November exports (the latest available) totalled $252,000,000 as compared with $289,000,000 for January, and imports for the two corresponding months were respectively $176,000,000 and $171,000,000. The 1938 exports (first 11 months) of $2,825,000,000 compared with $3,026,000,000 for 1937, $2,226,000,000 for 1936, $2,059,000,000 for 1935, $1,962,000,000 for 1934, $1,482,000,000 for 1933, and $1,479,000,000 for 1932. Imports of $1,789,000,000 for 1938 (11 months) compared with $2,875,000,000 for 1937, $2,177,000,000 for the corresponding period of 1936, $1,861,000,000 for 1935, $1,523,000,000 for 1934, $1,316,000,000 for 1933, and $1,226,000,000 for 1932.

AUTOMOBILE SALES

Figures of automobile production during the 11 months of 1938, ending November, totalled only 2,101,209 units as compared with 4,482,740 and 3,955,405 for the corresponding periods of 1937 and 1936. The year's total was at only about one-half the rate of 1937. It is also interesting to compare the aforementioned total with 1929 when production for all of the year amounted to 5,621,715 units. The year's production was particularly unfavorable during the early months, but improved substantially during the latter half. In fact, during November, 1938 the automobile production had risen to a monthly total of 372,358 units, as compared with 360,055 units for the same month of 1937.

IRON AND STEEL OPERATIONS

For the iron and steel business, 1938 was a year of substantial improvement during the later months. According to the *Iron Age* the business started the new year at about 52 per cent of the industry's capacity, or at about double the rate of the first week of 1938. Pig iron production for the year 1938 totalled only 18,774,000 tons as compared with 36,612,000 tons for 1937, showing a decline of about 50 per cent for 1938 as compared with the preceding year. Yet it should be noted that, at the end of the year, December production totalled 2,270,000 tons as compared with only 1,490,000 tons for the corresponding month of last year. The real reason for the very unfavorable comparison in the two years lies in the fact that for the first eight months of 1938 monthly pig iron production was exceedingly small, varying between a monthly minimum of 1,062,000 tons (June) and a maximum of 1,494,000 tons (August), whereas during the same months of 1937 production was consistently at 3,000,000 tons a month or over. The improvement in the later months of 1938 could not overcome the unfavorable figures of the depression period of the year. It is also interesting to compare the year's production of 18,774,000 tons with 46,807,000 tons for 1936, 49,865,000 tons for 1928, and the all-time record production of 54,312,000 tons for 1929. The price per ton of pig iron, it should also be noted, declined from $23.89 a ton (for No. 2 Southern at Cincinnati) to $21.06 at the end of the year. As regards steel production of ingots the showing was also poor for the year as a whole, but more cheerful during the later months. For the first 10 months of 1938, total production amounted to only 21,123,872 tons as compared with 45,875,521 tons for the corresponding period of 1937. Yet by October of 1938, monthly production had risen to 3,118,000 tons as compared with only 1,473,000 tons for December, 1937.

BUILDING CONSTRUCTION

Using the figures of F. W. Dodge Corporation for 37 eastern States, contracts for new building awards for 1938 amounted to $3,054,417,000 compared with $2,913,060,000 for 1937, $2,675,296,000 for 1936, $1,844,545,000 for 1935, $1,543,108,000 for 1934, $1,255,708,000 for 1933, $1,351,158,000 for 1932, and $3,092,849,000 for 1931. As reported by the *Commercial and Financial Chronicle* (Jan. 7, 1939): "The year 1938 was the fifth consecutive year of increased construction volume, according to F. W. Dodge Corporation. Residential building had the largest dollar total since 1930, and total building and engineering expenditures were practically equal to those of the year 1931 and greater than any year since 1931. While public construction expenditures represented 52 per cent of last year's total value, privately financed building and engineering work was greater than in any post-depression year except 1937. Private construction during 1938 ran 16 per cent behind 1937, but 10 per cent greater in volume than in 1936. . . . The gains in 1938 occurred in the later months of the year and continued without interruption through December."

COMMERCIAL FAILURES

As explained in 1937, the business failure record was exceedingly favorable during 1937 and 1936. During 1937 the total number of business failures reported by Dun and Bradstreet for the first 10 months amounted to only 7,299 as compared with 7,805 for the corresponding period of 1936; and the total of liabilities of failures only $92,225,000 as compared with $123,433,000 for 1936. The severe business decline of 1937–8, however, seems to have had an unfavorable effect upon this barometer of business. During the first 10 months of 1938 (latest available) the number of business failures rose to 10,527, and the total liabilities of failures to $143,941,000. Compared with the corresponding period of 1937, these figures represent an increase of 44 per cent and 56 per cent respectively. Yet these figures should not be viewed in too unfavorable a light. The 1938 figure of 10,527 failures still compares very favorably with 17,938 for the corresponding period of 1933 and 27,280 for the same period in 1932. The low figure of $143,941,000 still compares most favorably with $193,000,000, $226,000.000, $450,000,000, and $811,000,000 for the corresponding periods of 1935, 1934, 1933 and 1932. There is still every reason to believe, as expressed last year, "that the heavy liquidation of the depression has run its course, and that there is little to fear by way of a bankruptcy situation for a long time to come."

INDUSTRIAL AND RAILROAD DIVIDENDS

For the first 10 months of 1938 dividend declarations of industrial and miscellaneous American corporations, (*Babson's Reports*) totaled only $2,127,936,000, and for American railroads, $117,136,000. These totals compare with $2,986,187,000 and $162,729,000 for the corresponding 10 months of 1937 and thus show a very substantial decline in both instances. Likewise, the 1938 figures are but slightly higher than the record for the depression year of 1933 for the corresponding period, namely, $1,598,000,000 and $128,000,000. The 10 months' record of industrial dividends for 1938 ($2,127,000,000) compares with $2,414,000,000 for the whole of 1922, $3,535,000,000 for 1931, $4.088.000,000 for 1930, and $3,700,000,000 for 1929. For railroads the 1938 10-month record of $117,000,000, compares with the yearly total of $184,000.000 for 1932, $419,000,000 for 1931, $550,000,000 for 1930, and $552,000,000 for 1929. It is thus seen, as explained in 1937, that, "industrial rewards to stockholders are still very

INDUSTRIAL PRODUCTION

(1923-1925 average = 100)

	Adjusted for Seasonal Varation			Without Seasonal Adjustment		
	Nov. 1938	Oct. 1938	Nov. 1937	Nov. 1938	Oct. 1938	Nov. 1937
Durable Goods						
Iron and Steel	109	90	68	101	88	63
Automobiles	96	84	92	115	63	111
Locomotives	...	5	22	...	5	23
Plate Glass	155	155	151	155	155	151
Tin Deliveries	*...	...	...	73	61	115
Beehive Coke	6	6	14	6	6	15
Non-Durable Goods						
Textiles	p112	100	80	p116	103	83
Slaughtering and Meat Packing	94	95	86	104	94	95
Wheat Flour	86	91	86	93	102	93
Sugar Meltings	100	103	101	78	98	79
Newsprint Production	63	58	r65	63	58	r64
Leather and Products	p102	100	81	p 98	110	78
Petroleum Refining	*...	208	r212	*...	209	r213
Lubricating Oil	*...	...	...	*...	110	127
Tobacco Products	164	150	155	167	161	158
Minerals						
Bituminous Coal	p 76	72	78	p 85	79	87
Anthracite	57	49	67	p 59	63	70
Petroleum, Crude	p163	161	174	p162	163	172
Iron Ore	42	50	40	35	86	34
Zinc	88	80	108	88	78	108
Silver	*...	102	119	*...	101	128

* = Data not yet available.
p = Preliminary.
r = Revised.

far from the payments prevailing at the beginning of the depression in 1930, while the return to stockholders in American railroads is still pitifully small.

GENERAL BUSINESS INDICES

Using the figures of the Board of Governors of the Federal Reserve System, issued Dec. 31, it would appear that November, 1938 showed moderate increases or declines along nearly all important lines as compared with the corresponding month of 1937. Certain exceptions, however, should be noted, like iron and steel with an increase from 68 to 109, textiles (increased from 80 to 112), leather products (increased from 81 to 102), tobacco products (increased from 155 to 164), anthracite (decreased from 67 to 57), crude petroleum (decreased from 174 to 163) and zinc (decreased from 108 to 88). (See table, p. 360.)

COMMODITY INDEX NUMBERS, AND LABOR CONDITIONS

Using the Bureau of Labor Statistics price index for main groups of commodities, 1938 experienced a substantial decline in the price level. On Dec. 24, 1938, this index stood at only 76.6, as compared with 81.2 for 1937 (Dec. 25), 84.1 (Dec. 26) for 1936, 80.6 (Dec. 28) for 1935, and 77.1 (Dec. 29) for 1934, and with yearly averages of 66 for 1933, 64.9 for 1932, 73 for 1931, 86.4 for 1930, 95.3 for 1929, 100 for 1926, and 154.4 for 1920, the highest yearly average under this index since the beginning of the century. While still favorable, in comparison with the years 1931–34, the 1938 price level at the end of the year was far beneath the levels to which we were accustomed prior to 1931. In tabular form the index numbers of the Bureau for the main groups of commodities, at the close of the year, compared with former years as follows:

BUREAU OF LABOR STATISTICS PRICE INDEX FOR MAIN GROUPS OF COMMODITIES

(1926 = 100)

Commodity Groups	Dec. 24 1938	Dec. 25 1937	Dec. 26 1936	Dec. 28 1935	Dec. 29 1934
All Commodities	76.6	81.2	84.1	80.6	77.1
Farm Products	67.2	72.9	88.4	78.4	72.6
Foods	72.2	78.9	85.7	85.3	76.3
Hides and Leather Products	93.8	98.4	101.1	96.4	86.6
Textile Products	65.2	69.4	76.1	72.8	69.7
Fuel and Lighting Materials	73.8	78.6	77.5	75.6	74.7
Metals and Metal Products	94.8	96.2	89.1	85.9	85.5
Building Materials	89.3	92.5	89.7	85.1	84.9
Chemicals and Drugs	76.4	79.2	86.1	80.0	78.3
Housefurnishing Goods	87.6	91.4	84.3	82.2	82.5
Miscellaneous	72.9	74.9	74.5	67.5	71.1
Raw Materials	70.3	75.3	85.5	....	....
Semi-manufactured Articles	75.1	77.4	83.1	....	....
Finished Products	80.2	85.0	83.9	....	....
All Commodities Other Than Farm Products	78.7	83.1	83.1	81.1	78.0
All Commodities Other Than Farm Products and Foods	80.5	83.6	82.4	78.8	78.1

Source of data—*Commercial and Financial Chronicle*, Dec. 31, 1938.

With respect to labor conditions, using November as the basis, 1938 showed in the main considerable declines as compared with the same month of 1937. However, with respect to payrolls the showing was quite favorable as between leading industries, some like iron and steel, machinery, transportation equipment, and non-ferrous metals, showing a rather large decline; a few like leather products and textiles and products showing a substantial increase; and other groups indicating comparatively little change. Referring to the Dec. 31 report of the Board of Governors of the Federal Reserve System (as reported by the *Financial and Commercial Chronicle*) the showing is as follows for leading types of industries as regards both employment and **payrolls.**

FACTORY EMPLOYMENT AND PAYROLLS

(1923-1925 average = 100)

	Employment						Payrolls		
	Adjusted for Seasonal Variation			Without Seasonal Adjustment			Without Seasonal Adjustment		
	Nov. 1938	Oct. 1938	Nov. 1937	Nov. 1938	Oct. 1938	Nov. 1937	Nov. 1938	Oct. 1938	Nov. 1937
Durable Goods									
Iron and steel	86.6	83.3	104.6	86.9	84.1	105.0	79.4	74.9	88.7
Machinery	89.1	86.8	120.7	89.4	87.2	121.1	83.9	81.9	120.1
Transportation Equipment	90.2	82.0	119.4	91.9	79.9	121.5	95.4	84.7	118.4
*Railroad Repair Shops	....	....	....	....	....	....	....	....	....
Non-ferrous Metals	92.1	89.0	103.4	95.1	92.2	106.8	89.9	88.5	99.0
Lumber and Products	64.2	62.9	70.2	64.9	65.7	71.0	56.0	60.0	58.5
Stone, Clay and Glass	71.0	67.8	77.7	71.4	70.1	78.2	64.0	63.0	69.9
Non-durable Goods									
Textiles and Products	97.0	95.6	97.0	97.2	97.5	97.2	78.6	83.1	73.8
Leather Products	91.8	90.8	90.5	85.1	89.6	83.9	62.6	69.6	55.9
Food Products	123.1	119.2	127.3	123.5	128.7	127.5	122.4	127.0	126.3
Tobacco Products	63.7	63.2	64.2	66.9	66.3	67.5	59.8	60.7	61.8
Paper and Printing	105.6	104.3	110.1	107.1	105.5	111.7	103.4	103.7	106.6
Chemical and Petroleum Products	111.7	111.2	122.9	113.0	113.4	124.5	119.2	120.1	129.9
Rubber Products	81.9	76.8	89.7	82.6	77.7	90.5	85.5	79.7	82.2

* No figures given.

Note: Indices of factory employment and payrolls are for payroll period ending nearest the middle of the month. November, 1938 figures are preliminary.

Source of data—*Commercial and Financial Chronicle*, Dec. 31, 1938 (page 3976).

THE SECURITY AND MONEY MARKETS

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Professor, University of Pennsylvania

GENERAL CONDITION

As explained in the previous issue of The American Year Book, the latter half of 1937 experienced a drastic decline in the price level of all of the major classes of stocks, a decline which finally reached the proportions of a market collapse of almost unprecedented extent from a percentage standpoint. Using the security market indices of the Standard Statistics Company, the decline in 20 representative railroad stocks extended from a monthly average of 64.8 for March to 33.1 for November, or 49 per cent; in 50 industrial stocks from 174.6 to 107.8 during the same period or 38 per cent; in 20 public utilities from 91.8 to 63.3 or 31 per cent; and with respect to seven representative copper and brass stocks from 254 to 115.4 or 55 per cent. Bond prices also showed a marked decline during practically all of the year, namely, from an average high of 100.7 for January of 1937 to 85.4 for November.

The beginning of 1938 gave every indication that the bear market of 1937, with respect to both stocks and bonds, had by no means run its course. Railroad stocks (using the aforementioned Standard Statistics Company index) continued their decline until June, 1938 when a low of 22.7 was reached. Industrial stocks reached their low in May when the monthly average stood at 97.5. Public utility stocks reached a low of 51.6 for April, and copper and brass stocks a low of 108.5 for April. For the entire bear market of 1937–38 the depreciation in the price level for the aforementioned four groups of stocks amounted to the following: railroad stocks 65 per cent, industrial stocks 44 per cent, public utility stocks 44 per cent, and copper and brass stocks 57 per cent. Bond prices (using the Standard Statistics index for 60 bonds) continued their decline until a low of 73.5 was reached in June, 1938, this average comparing with the average high of 100.7 for January, 1937.

In the 1937 account, the reasons for the remarkable collapse in security price levels all along the line were briefly set forth as follows: "Adverse news piled up so plentifully during the last three quarters of 1937 as to undermine the confidence of the investment and speculative community. Labor unrest of serious proportions confronted nearly all of the nation's basic industries, and resulted in widespread disorganization in production as well as huge financial loss to all concerned. The tax on industrial profits and capital gains was weighing increasingly on corporations and greatly curtailed expansion of industrial facilities. Actual war as well as the prospects of war filled the newspapers day by day with respect to nearly all the important nations of Europe and Asia. At home it became more and more apparent that the Government could not balance the budget, and that there was also every likelihood for a further increase in taxes. There was also a governmental tendency to compete with private industry, as well as a marked governmental disposition to war upon 'big business.' Numerous political measures were also threatened, which involved the danger of large potential powers over private business to such an extent as to cause a widespread 'fear psychology,' with its severe reaction upon the security market."

Some of the foregoing factors, like the unbalanced budget, the tax burden, and war or prospects of war, have continued to be depressing factors during all of 1938. On the other hand, various other reacting influences have asserted themselves more during 1938, and particularly the latter half of the year, and have tended to create a much more cheerful attitude market-wise. The building and iron and steel trades showed a marked improvement during the latter half of the year, and fundamental business averages as a whole showed an improvement of some 10 per cent by November as compared with the corresponding month of 1937. Labor troubles also disappeared to a remarkable extent. Moreover, elections showed a distinct swing to the right politically in both the industrial and agricultural sections of the country. Probably because of this tendency the security market has shown a distinct ability to resist bad developments, such as war scares, and to be more responsive to good news. During the latter half of the year both the stock and bond markets may be described as "moderate bull markets." The appreciation was very substantial, measured by percentage improvements from the low levels at the middle of the year. Yet from the standpoint of the decline in dollar value, the appreciation of the latter half of 1938 still leaves much of the previous year's decline unrecovered.

STOCK PRICES

The extent of the decline during the first half of 1938, and of the recovery during the latter half of the year, may be shown by the monthly averages of the Standard Statistics Company for various groups of stocks. Fifty representative industrial stocks declined from 110.5 in January to 97.5 in May. Thereafter the monthly average rose steadily, with only occasional minor dips, to 129.1 in November (the latest month for which an average is available). The November average of 129.1 compares with 107.8 for November 1937, 168 for January of 1937, 129.1 for January of 1936, and 53.5 for the yearly average of 1932, the bottom year of the 1930–36 depression. Following 1932 the industrial stock average experienced a rise of nearly 226 per cent by March of 1937, when the last bear market began to put in its appearance. It is interesting to note that the November, 1938 average of 129 is approximately two and one-half times the 1932 yearly average of 53.6. It should also be pointed out that during 1929 this industrial list reached the highest monthly level during September, namely, 245.9. Comparing this 1929 September average with 37.9, the lowest monthly average reached in June, 1932, it appears that these industrial shares declined within the three years under consideration by nearly 85 per cent.

With respect to 20 representative railroad stocks, the monthly average of the Standard Statistics Company declined from 31.5 in January (1938) to 22.7 in June. Thereafter the monthly average fluctuated considerably, although clearly on a rising scale, until it stood at 31.7 in November. This November average (31.7) compares with 33.1 for November, 1937, the low of that year, with 47 for January, 1936, and with yearly averages of 36 for 1935, 42.9 for 1934, 39 for 1933, 26.8 for 1932, and 141 for 1929. During 1929 it should be noted that these railroad shares reached the highest monthly level during September, namely, 161.2. Comparing this September, 1929 average with 15, the lowest average reached in June, 1932, it appears that these railroad shares declined within the three years under consideration by over 90 per cent. It is again interesting to compare the November, 1938 average of 31.7 with the 1932 low monthly average of 15, and also with the September 1929 high average of 161.2.

A similar trend is shown in the public utility group during 1938. According to the Standard Statistics average of 20 utilities, the monthly average declined from 59.3 in January to 51.6 in June. Thereafter there was a rising tendency in the price level until it reached 66.4 in November. This November, 1938 average of 66.4 compares with 63.3 for November of 1937, 100.9 for January of 1937, 88.4 for January of 1936, and with yearly averages of 62.8 for 1935, 65.5 for 1934, 81.8 for 1933, 88.7 for 1932, and 246 for 1929. During 1929, it should be noted, utility stocks also reached the highest monthly level during September, namely, 340.6. It is interesting to compare the November, 1938 average of 66.4 on the one hand with the depression level of 88.7 in 1932, and also with the 1929 high of 340.6.

Attention may also be called to a representative list of seven copper and brass stocks whose average price underwent a decline from 131.2 for January, 1938 to 103.6 for June of the same year. Thereafter the price rose until it stood at 165.8 for November. This November average compares with 115.4 for November, 1937, with 227.4 for January, 1937, and 113.4 for January, 1936.

Using the figures of the New York Stock Exchange *Bulletin* (December, 1938) the total market value of the 1,427,000,000 listed shares on the New York Stock Exchange stood at $46,081,000,000 on Dec. 1. This value compares with $40,716,000,000 at the same date of 1937 and with $62,618,000,000 for March, 1937, the high mark before the bear market of 1937–38 began its course. It may also be compared with a low of $34,585,000,000 for May, 1938. In other words there occurred an appreciation of some $11,500,000,000 since May, 1938, as compared with a total decline of about $28,000,000,000 between March, 1937 and May, 1938.

The average monthly "all stock price index," as published by the New York Stock Exchange *Bulletin*, stood at 64.1 for November, 1938 as compared with 48.1 for May of the same year. The Dec. 1 average of 64.1 compares with the following December averages for preceding years: 37.80 for December, 1937, 56.01 for 1936, 45.85 for 1935, 35.59 for 1934, 32.78 for 1933, 25.61 for 1932, 34.24 for 1931, 55.53 for 1930, 68.44 for 1929, and 97.80 for 1928.

BOND PRICES

All American bonds listed on the New York Stock Exchange (1,389 issues) showed a total market value of $50,301,000,000 on Dec. 1, 1938. This value compares with $39,088,000,000 on Dec. 1, 1937. On Dec. 1, 1938 the average price of the aforementioned number of listed bond issues stood at 90.34 which compares with 92.36 for Dec. 1, 1937, and with the following for December of previous years: 100.55 for 1936, 93.69 for 1935, 91.68 for 1934, 82.98 for 1933, 81.36 for 1932, 84.13 for 1931, 96.51 for 1930, 96.80 for 1929, and 98.69 for 1928.

SECURITY MARKET PRICES

	Railroads 20 stocks		Industrials 50 stocks		Public Utilities 20 stocks		Copper and Brass 7 stocks		Stocks 90 stocks	
	1937	1938	1937	1938	1937	1938	1937	1938	1937	1938
Jan.	*58.8	*31.5	*168.0	*110.5	*100.9	*59.3	227,4	131.2	*139.7	*89.3
Feb.	*60.8	*30.2	*174.5	*108.5	*97.2	*55.8	239.1	129.8	*143.8	*87.6
Mar.	*64.8	*25.9	*174.6	*101.8	*91.8	*52.6	254.0	124.6	*143.7	*81.9
April	*62.1	*23.0	*163.9	*97.7	*85.5	*51.6	230.6	108.5	*135.1	*78.5
May	*60.6	*23.1	*156.8	*97.5	*79.4	*56.0	204,8	112.3	*129.1	*79.2
June	*56.0	*22.7	*152.1	*100.3	*74.4	*55.9	207.5	103.6	*124.2	*81.1
July	*55.4	*29.6	*161.2	*120.7	*81.7	*63.2	218.9	143.3	*131.6	*97.2
August	*53.3	*29.4	*163.9	*122.4	*80.7	*59.9	232.8	147.5	*132.9	*97.7
Sept.	*44.1	*26.4	*140.7	*117.6	*70.8	*55.9	196.1	143.7	*114.1	*93.7
Oct.	*36.7	*31.4	*119.9	*129.3	*62.6	*65.8	139.2	162.4	*97.6	*103.7
Nov.	*33.1	*31.7	*107.8	*129.1	*63.3	*66.4	115.4	165.8	*88.9	*103.8
Dec.	*32.6		*106.4		*60.9		129.2		*87.5	

* An average for the month based on daily closing prices.

(Source of data—Standard Trade and Securities, *Statistical Bulletin*, Standard Statistics Company, Inc.)

COMPOSITE BONDS

(60 Bonds)

	1937		1938	
	High	Low	High	Low
Jan.	100.7	100.0	82.5	77.7
Feb.	100.4	99.6	80.2	78.1
March	99.8	97.1	79.9	70.7
April	97.2	95.9	75.3	70.9
May	96.9	95.7	78.2	74.8
June	95.8	93.4	78.1	73.5
July	95.6	94.2	82.8	78.4
August	95.3	94.0	82.3	80.3
Sept.	93.7	88.8	80.2	77.0
Oct.	89.9	82.3	82.4	79.6
Nov.	85.4	81.1	83.0	81.3
Dec.	83.6	81.3	....	....

SHARES TRADED ON THE NEW YORK STOCK EXCHANGE

(New York Stock Exchange *Bulletin*)

	1937	1938
Jan.	58,671,416	24,152,000
Feb.	50,248,010	14,526,000
March	50,346,280	22,996,000
April	34,606,839	17,119,000
May	18,549,189	14,004,000
June	16,449,193	24,368,000
July	20,722,285	38,774,000
Aug.	17,212,553	20,728,000
Sept.	33,854,188	23,827,000
Oct.	51,127,611	41,559,000
Nov.	29,254,625	27,922,000
Dec.	....	....

VOLUME OF STOCK TRANSACTIONS

Stock transactions on the New York Stock Exchange during 1938 decreased very substantially from the volume recorded for either 1937 or 1936. Despite the substantial improvement in the price level during the latter half of the year, there was a surprising dullness in market activity. For six out of the first 11 months of the year sales per month fell below the 25,000,000 shares; in

YEARLY TOTALS

Shares of Stock

1920	226,640,400	1930	810,038,161
1921	172,712,716	1931	576,921,426*
1922	258,652,519	1932	425,235,829*
1923	236,115,040	1933	654,874,210*
1924	281,991,597	1934	323,871,840*
1925	454,404,733	1935	381,666,197*
1926	450,845,255	1936	496,063,099*
1927	576,563,218	1937	409,468,885*
1928	919,661,825	1938	297,446,059*
1929	1,124,991,490	....	....

*(From *The New York Times*)

three other months the monthly total of sales fell below 15,000,000 shares; and for only three months of the period—July, October and November—did monthly sales run in excess of 27,000,000 shares.

Shares sold on the New York Stock Exchange during all of 1938 totalled only 297,446,059 (as reported by *The New York Times*) as compared with 409,468,855 shares for 1937, 497,063,099 shares for 1936, 381,666,197 for 1935, 324,000,000 for 1934, 655,000,000 for 1933, 425,000,000 for 1932, 577,000,000 for 1931, 811,000,000 for 1930, and 1,125,000,000 for 1929, the highest figure on record. As explained in previous years, the huge rise in the number of shares dealt in during 1929 and 1930 is partly attributable to the substantial increase in the number of shares listed on the New York Exchange. The volume of transactions during 1933 and thereafter, however, is not influenced by this factor. On the New York Curb Market sales also showed a similar tendency towards drastic decline, the total sales standing at only 49,795,922 shares (*The New York Times*) as compared with 104,178,804 shares for 1937, 134,843,049 for 1936, 75,850,188 for 1935, 55,888,426 for 1934, 100,653,000 for 1933, and 56,979,581 for 1932. The 1938 total of only 49,000,000 shares compared with 110,000,000 for 1931, 220,000,000 for 1930, and 474,000,000 for 1929.

THE BOND MARKET

Bond sales on the New York Stock Exchange during 1938 totalled only $1,185,525,823 (*The New York Times* report) as compared with $2,792,531,000 for 1937, $3,575,453,110 for 1936, $3,437,855,300 for 1935, $3,729,000,000 for 1934, $3,366,000,000 for 1933, $2,972,000,000 for 1932, $3,075,000,000 for 1931, $2,779,000,000 for 1930, and $3,020,000,000 for 1929. As was the case in the share market, bonds experienced a considerable decline in the price level during the first few months of the year and subsequently enjoyed a substantial recovery. Using the Standard Statistics average for 60 bonds, the monthly average for 1938 declined from a high of 82.5 for January to a low of 70.7 for March. Thereafter a moderate rise occurred until a monthly high of 82.8 was reached for July. Following this month the price level fluctuated from month to month, the high being 83 for November, the latest month for which the record is obtainable. This November average of 83 compares with 81.1 for November, 1937, and 100.9 for January, 1938.

THE MONEY MARKET

With respect to both time and call loan rates, the 1938 tendency continued as it was during 1937 and the preceding four years. During all of 1938 there was a continuing plethora of idle funds. As was the case during previous years, back to 1933, New York time and call loans were quoted at only about one per cent, thus showing a continuing unusual absence of demand for funds for commercial and speculative purposes.

Beginning with a January average of one per cent for four to six months commercial paper, and one per cent for call loans in New York, the average monthly rates during 1938 remained extremely low month after month throughout the year. For prime commercial paper the rate in New York averaged one per cent for January to August inclusive, and then declined during the months of September, October and November to .90, .78 and .75 of one per cent respectively. For call loans in New York the monthly average remained at one per cent for each of the first 11 months of the year.

According to the New York Stock Exchange *Bulletin* (December, 1938) the borrowings of New York Stock Exchange members on collateral security showed another substantial decrease as compared with 1937. Thus, time loans decreased from $189,000,000 on Dec. 1, 1937 to $43,000,000 on Dec. 1, 1938. During the same period call loans increased slightly from $498,000,000 to $577,000,000. Combining the two types of loans, total borrowings showed a decrease from $687,000,000 on Dec. 1, 1937 to $620,000,000 on the same date of 1938. This combined total compares with corresponding figures prevailing on Dec. 1 of $984,000,000 for 1936, $846,000,000 for 1935, $831,000,000 for 1934, $789,000.000 for 1933, $336,000,000 for 1932, $730,000,000 for 1931, $2,162,000,000 for 1930, $4,017,000,000 for 1929, and $6,392,000,000 for 1928. No doubt as has been explained in recent years, many purchasers of stock have been doing their financing directly through the banks, instead of with brokers as formerly.

INTEREST RATES

(Source of Interest Rate Data—Standard Statistics)
(Source of Gold Movements—Standard Statistics)
(Source of Average Bank Rate—Babson's Statistical Service)

	Commercial Paper 4-6 months		Call Loans—N. Y. Stock Exchange Renewals—average of daily renewal rates		Average Bank Rates—England France and Germany		Gold Movements (Figures show excess of Imports over Exports) (000,000 omitted)	
	1937	1938	1937	1938	1937	1938	1937	1938
Jan.	0.75	1.00	1.00	1.00	3	3	121.3	2.1
Feb.	0.75	1.00	1.00	1.00	3-1/3	3	120.3	8.0
Mar.	0.82	1.00	1.00	1.00	3½	3	154.3	52.9
April	1.00	1.00	1.00	1.00	3-1/3	3	215.8	71.7
May	1.00	1.00	1.00	1.00	3-1/3	2-7/8	155.4	52.8
June	1.00	1.00	1.00	1.00	3-2/3	2-5/6	262.0	55.3
July	1.00	1.00	1.00	1.00	3¾	2-5/6	175.4	63.8
Aug.	1.00	1.00	1.00	1.00	3-1/3	2-5/6	104.8	166.0
Sept.	1.00	0.90	1.00	1.00	3-1/6	2-5/6	145.5	520.9
Oct.	1.00	0.78	1.00	1.00	3-1/6	3	90.5	562.4
Nov.	1.00	0.75	1.00	.....	3-1/6	.....	22.1	.....
Dec.	1.00	.....	.....	.....	3-1/16	.....	18.0	.....

BANKING AFFAIRS

By Gurden Edwards

Research Council, American Bankers Association

GENERAL

Banks of all classifications in the United States on Sept. 28, 1938 numbered 15,265 institutions with aggregate deposits, exclusive of inter-bank deposits, of $52,611,000,000, as reported in the *Federal Reserve Bulletin*. The total investments of these institutions were $27,215,000,000 on the date given and their loans were $21,089,000.000. As to numbers, these figures showed a decrease of 128 banks during the year, as there were, on Dec. 31, 1937, 15,393 banks including both national and state chartered institutions. In the same period there was a small increase in the item of deposits. At the earlier date total deposits were $52,440,000,000, so that the indicated increase was $171,000,000. In the same period, total investments of these banks increased by $847,000,000 and their loans fell by $1,109,000,000. This latter circumstance reflected a substantial reversal in the loan trend as compared with the previous year, when loans increased by $749,000,000, and would seem to indicate that the difficulties experienced by bankers in recent years in finding qualified commercial and industrial borrowers willing to venture on an expansion of their activities were still acute.

CLASSIFICATION OF BANKS

Official reports on banks by classes showed that there were, on Sept. 28, 1938, 5,239 national banks as compared with 5,260 banks of this class at the opening of the year. The national banks had deposits of $22,838,000,000 exclusive of inter-bank deposits as compared with $22,655,000,000 on Dec. 31, 1937. The same reports showed that there were, in September, 1938, 10,026 state banks as compared with 10,133 at the year opening; this figure comprised state commercial banks, trust companies, mutual and stock savings banks and such private and industrial banks as are included in abstracts issued by state banking departments. The deposits of this group of banks totalled on Sept. 28, 1938 $29,773,000,000 as compared with $29,785,000,000 Dec. 31, 1937.

BANK SUSPENSIONS

The 11 months of 1938 from January through November brought 53 suspensions of licensed banks with total deposits of $12,950,000. This compares with 54 suspensions for the same period in 1937 with deposits of $18,602,000. Of the 1938 suspensions 47 were insured by the Federal Deposit Insurance Corporation with deposits of $11,654,000.

BUSINESS AND BANKING

The American Bankers Association, discussing public and banking questions in its resolutions at the annual convention held in Houston, Tex. in November, 1938, adopted the following declaration:

"Business activity has been increasing in this country during recent months. There has been a vigorous increase in the volume of industrial production. For some months past the market prices of bonds and stocks have been moving upward. The flow of national income has notably advanced. The totals of new financing through capital issues of securities have grown larger. Along with these developments there has come a notable increase in the volume of employment. The amount of new building construction has been moving upward, and there has been an especially noteworthy advance in the growth and the wide distribution of new home building.

"Bankers everyhere are particularly gratified not only at these signs of business recovery but at the fact that American banking has passed through the recent period of business depression with almost entire immunity from its hazards. Bank deposits have continued to increase, interest rates on loans to customers have remained steady and bank losses on loans have been few and unimportant. Banks have continued to serve their communities adequately in the difficult year that is drawing toward its close, and they are prepared to expand their services in the better one which we believe lies ahead.

BANKING RESEARCH

"We approve the work of this Association in the field of banking research and recommend that these activities be continued. We also heartily recommend the continuing development of the Graduate School of Banking. These undertakings are disclosing facts and principles which are being evaluated, interpreted and translated into policies and action by American bankers with beneficial results that will continue to grow through the years.

BANKING CONFERENCES WITH THE PUBLIC

"We believe that the meetings between bankers and the general public inaugurated under the auspices of this Association during the past year were productive of great good in the field of public relations, and we recommend that they be continued. Much benefit will accrue to the national economy in general as the public's understanding of banking is enhanced and gradually increased through such means.

LOANS BY BANKS

"American bankers have never before had such large volumes of funds available for lending as they have now and they have never before been more eager to make loans. They are serving their customers and communities with increasing flexibility and effectiveness and stand ready to continue to do so in this period of business expansion. As these trends and conditions develop there will be progressively diminishing justification for the extension of loans by governmental agencies.

CHARTERING OF BANKS

"We repeat the conviction expressed in each of the several conventions of this Association during recent years that the number of banks chartered should be rigidly limited to economic requirements of their communities. We renew our pledge to bank supervisory authorities, both state and national, to support them in efforts to resist political and other pressure for the granting of charters not dictated by reasonable economic necessity.

FISCAL POLICY AND TAXATION

"We reiterate the position of this Association that a return to a balanced budget should be the prime objective of a sound public fiscal policy. This applies to national, state and municipal governments.

"It is of vital importance that taxes shall not be punitive, discriminatory or confiscatory and that they shall be so devised and administered that they may be taken out of the national income with the smallest possible injury to the sources of that income. Therefore, we reiterate the recommendation that overlapping and duplicate taxation by local, state and Federal governments be eliminated, and that the administration of the several taxing laws be so standardized that taxpayers may know their tax liabilities with a reasonable degree of certainty.

BRANCH BANKING

"We emphatically reaffirm the action of the convention held at Boston in 1937 wherein the position of the Association was stated with regard to the dual system of banking, branch banking and the autonomy of the laws of the separate states with respect to banking and definitely opposing any proposal or device looking to the establishment of branch banking privileges across state lines, directly or indirectly. We reaffirm the statement presented in the preamble to the Boston resolution that this declaration is binding on all divisions, committees and commissions of the American Bankers Association."

RECONSTRUCTION FINANCE CORPORATION AND BANKING

The Reconstruction Finance Corporation, in reporting on its operations through November, 1938, stated that, since its inception in January, 1932, it had authorized loans to 7,532 banks and trust companies of all classes in the aggregate amount of $2,544,600,000, of which amount $504,150,000 was withdrawn, $21,797,000 remained available to borrowers and $2,018,600,000 had been disbursed. Of this latter amount, $1,886,000,000, or 93%, had been repaid by the banks. The Corporation also reported that since it was empowered in March, 1933 to make purchases of preferred stock, capital notes and debentures of banks, authorizations had been made for such purchases from 6,849 banks and trust companies in the amount of $1,303,000,000. It was also stated that loans had been authorized for distribution to depositors in 2,771 closed banks, aggregating $1,329,500,000, of which $981,800,000 had been disbursed, and of this $911,500,000, or over 93%, had been repaid. The foregoing figures consistently demonstrated the progressive elimination of abnormal conditions in the banking structure.

FEDERAL DEPOSIT INSURANCE CORPORATION

The Federal Deposit Insurance Corporation reported that on Sept. 21, 1938 the Corporation was insuring the deposits (up to $5,000 in a single account) of 13,705 banks. It was stated that $21,705,000,000 of deposits were insured and 60,399,000 accounts.

X. BUSINESS AND FINANCE

The latest available comprehensive official figures for all classes of banks, showing detailed schedules of assets and liabilities, are those given by the Comptroller of the Currency for June 30, 1938, and are as follows:

STATEMENT OF ASSETS AND LIABILITIES OF ALL BANKS, JUNE 30, 1938

(Amounts in thousands of dollars)

	Total all Banks	National Banks	All Banks other than National
Number of banks	15,341	5,248	10,093
Assets			
Loans on real estate	$ 8,713,113	$ 1,626,500	$ 7,086,613
Other loans, including rediscounts	12,587,369	6,704,068	5,883,301
Overdrafts	10,679	4,056	6,623
U. S. Government securities:			
Direct obligations	14,083,068	6,510,357	7,572,711
Obligations fully guaranteed	2,691,194	1,477,359	1,213,835
State, county, and municipal obligations	3,460,758	1,415,997	2,044,761
Other bonds and securities	6,110,458	2,240,563	3,869,895
Banking house, furniture and fixtures	1,325,718	629,398	696,320
Real estate owned other than banking house	1,216,308	153,975	1,062,333
Cash in vault	1,044,251	528,305	515,946
Balances with other banks, including reserve with reserve agents	16,426,417	8,922,250	7,504,167
Other assets	633,563	174,254	459,309
Total assets	$68,302,896	$30,387,082	$37,915,814
Liabilities			
Deposits of individuals, partnerships, and corporations:			
Demand	22,911,358	12,138,047	10,773,311
Time	24,658,082	7,548,899	17,109,183
State, county, and municipal deposits	3,534,530	2,106,342	1,428,188
U. S. Government and postal savings deposits	717,199	467,338	249,861
Deposits of other banks	6,838,222	4,211,101	2,627,121
Certified and cashiers' checks, cash letters of credit, etc.	720,159	344,167	375,992
Total deposits	$59,379,550	$26,815,894	$32,563,656
Bills payable	39,585	7,731	31,854
Rediscounts	2,159	1,289	870
Agreements to repurchase securities sold	726	560	166
Acceptances executed by or for account of reporting banks	176,307	60,955	115,352
Interest, taxes, and other expenses accrued and unpaid	83,244	49,129	34,115
Dividends declared but not payable and amounts set aside for undeclared dividends and for accrued interest on capital notes and debentures	49,465	27,780	21,685
Other liabilities	389,891	149,925	239,966
Capital notes and debentures	164,085	....	164,085
Preferred stock	447,120	266,095	181,025
Common stock	2,593,546	1,306,805	1,286,741
Surplus	3,611,598	1,118,413	2,493,185
Undivided profits—net	805,176	409,167	396,009
Reserves for contingencies	527,244	159,309	367,935
Retirement fund for preferred stock and capital notes and debentures	33,200	14,030	19,170
Total capital account	8,181,969	3,273,819	4,908,150
Total liabilities, including capital account	$68,302,896	$30,387,082	$37,915,814

SAVINGS IN AMERICAN BANKS

The amount of savings, including time deposits and postal savings deposited in banks in the United States, virtually stood still during the fiscal year ended June 30, 1938, according

SUMMARY OF SAVINGS DEPOSITS AND DEPOSITORS

(Including Time Certificates and Postal Savings)

Year	Total Savings Deposits	Per Inhabitant Savings Deposits	Total Number Savings Depositors
	(000 omitted)		
1934	$21,752,510	$172	$39,562,174
1935	22,614,024	179	41,315,206
1936	23,463,584	184	42,396,712
1937	24,491,957	191	44,226,178
1938	24,625,514	191	44,548,914

to reports received by the Savings Division, American Bankers Association. There was an increase of only $133,557,000 or .55 of one per cent. The number of savings depositors grew by 322,736 or .73 per cent. The gain in deposits was not general throughout the United States, all the New England States, contrary to tradition, reporting lower deposits than a year earlier, as did many States in other sections. Total savings in banks aggregated $24,626,000,000 on June 30, 1938. The number of depositors was 44,548,914. The per capita savings for the country was $191, the same as for 1937. The adjoining tabulation gives the savings picture during five years:

THE AMERICAN BANKERS ASSOCIATION

The American Bankers Association, the national organization of banking, including in its membership over 13,000 out of the approximately 15,300 state commercial, national and savings banks, and trust companies, held its sixty-fourth annual convention at Houston, Tex., in November, 1938.

Seattle was designated for the holding of the 1939 convention. The general officers of the Association elected for 1938–39 were: President, Philip A. Benson, president, Dime Savings Bank of Brooklyn, New York City; First Vice President, Robert M. Hanes, president, Wachovia Bank and Trust Company, Winston-Salem, N.C.; Second Vice President, P. D. Houston, chairman, American National Bank, Nashville, Tenn.; Treasurer, M. H. Malott, president, Citizens Bank, Abilene, Kan.; Executive Manager, Dr. Harold Stonier, American Bankers Association, 22 East 40th Street, New York, N.Y.

TRUST BUSINESS

By Gilbert T. Stephenson

The Graduate School of Banking, American Bankers Association

DEVELOPMENT IN COMMON-LAW WORLD

Throughout the common-law world there is in process of development a distinctive system of trust business of which the system that has been in process of development in the United States the past 117 years or more is but a part. It is quite proper to call it the common-law system of trust business and quite in order to see wherein the system developing in this country fits into the larger, worldwide system.

By common-law world is meant the United States and the countries of the British Empire—England, Wales, Scotland, Ireland, Canada, New Zealand, Australia, Union of South Africa and British India. They are the countries in which the Anglican or common-law system of law prevails and where the private trust, the device whereby the legal title to property may be vested in one person and the beneficial ownership in another, is employed.

Trust business, as the term is applied throughout the common-law world, is the business as carried on by corporations, not individuals, of winding up and distributing the estates of deceased persons, of taking care of the property of minors and incompetents, of administering trusts for individuals, corporations, and associations, of performing agencies of various sorts, and, generally, of handling other people's property for them as a business and for pay.

BRITISH INDIA

To British India belongs the credit of having started a common-law system of trust business. It began on March 26, 1774, with the establishment of the office of Ecclesiastical Registrar for the Provinces of Bengal, Behor and Orissa, one of whose functions was to wind up and distribute the estates of British subjects dying within these provinces. Out of the office of Ecclesiastical Registrar came the office of Official Trustee in 1843 and of Administrator-General in 1849. These two offices, in turn, are prototypes of the public trust offices now well established in New Zealand, Australia, and England.

Furthermore, to British India also goes the credit for having given the United States the idea of the trust company, that is, of the stock company chartered to engage in trust business. Harrison S. Morris in his *A Sketch of the Pennsylvania Company for Insurances on Lives and Granting Annuities* (Philadelphia, Lippincott, 1896), says (page 32) "the great success of what in India at this time (the 1820's) were called Agency Houses was irresistibly drawing the attention of financiers toward them. These were concerns organized to transact business for trustees or individuals, to receive moneys on deposit, and to administer estates." Today, India has an Official Trustee and an Administrator-General in each of seven provinces and a small number of more recently established trust companies.

UNITED STATES

The United States was the second of the common-law countries to enter the trust field. That was either in 1818 or 1822, according to which date is accepted. The facts about the two dates are these: The Massachusetts Hospital Life Insurance, chartered Feb. 24, 1818, actually accepted some trust business but did not receive express trust powers from the Massachusetts Legislature until 1823. Meanwhile, the Farmers Fire Insurance and Loan Company had been incorporated Feb. 28, 1822 with express trust powers and on Aug. 6, 1822 had run a trust advertisement in the *New York Evening Post.*

The historian of the Farmers Fire Insurance and Loan Company, now the City Bank Farmers Trust Company of New York City, (Henry Wysham Lanier, *A Century of Banking in New York,* 1822–1922, p. 189, The Gillis Press, New York, 1922) also gives credit in these words to India for the germ-idea of the trust company: "Now John T. Champlin (to whose efforts this venture was mainly due, and who was the concern's first president) had been for years a member of the great shipping firm of Minturn & Champlin; it seems likely enough, judging by the Philadelphia tradition, that the same reports of the prospering agency houses in far-away India may have come to him by personal narrative through his mercantile and shipping connections."

Today the United States has about 3,000 trust institutions, that is, trust companies and banks with trust powers, but no public trustees in the Indian or English or Australian or New Zealand sense of the term.

UNION OF SOUTH AFRICA

The Union of South Africa was the third of the common-law countries to enter the trust field. That was in 1834. Whence the idea came is not recorded. On April 22, 1834, a group of 22 "respectable inhabitants" of Cape Town met to form themselves into a body to "undertake the administration of estates, whether interstate or otherwise." On June 21, 1834 the first executorship, that of Jacobus Johannes Smuts, was accepted. Two years later, June 27, 1836, this body of "respectable inhabitants" was incorporated under the name, The South African Association for the Administration and Settlement of Estates, which now is the oldest trust company in South Africa.

Today the four provinces of the Union of South Africa have perhaps 50 (the exact number is not known, in the absence of national trust statistics) boards of executors and trust companies, insurance companies, and banks engaged in trust business, but no public trust offices.

NEW ZEALAND

New Zealand was the fourth of the common-law countries to enter the trust field. In 1872 the Public Trust Office was opened in Wellington and in 1883 the Guardian Trust and Executors Company of New Zealand, the oldest trust company in that country, was established. Today New Zealand, with a population of about 1,500,000, has, besides its public trust office with its 88 places of business, five independent trust companies and, in addition, two associated with insurance companies which are engaged in trust business, eight trust institutions in all with some 100 or more places of business.

AUSTRALIA

Australia followed next, entering the trust field in 1878. In 1878 The Trustees Executors and Agency Company of Melbourne, Victoria, became the "pioneer trust company of Australia." Three years after that, Jan. 1, 1881, the first public trust office was opened, that of South Australia at Adelaide.

To South Africa goes the credit for having given both New Zealand and Australia the idea of the trust company. Said the Union Trustee Company of Australia, Brisbane, Sydney and Melbourne, on the occasion of its 50th anniversary in 1935: "Although Australians can not claim credit for having originated the trustee company, they were astute enough quickly to realize its advantages and to make full use of them. The first trustee company was formed in South Africa. Information regarding it was brought to Australia by the late T. M. Stewart, under whose notice it came when he was in South Africa on business for the Bank of New Zealand, of which bank he was manager in Melbourne. On his return to Victoria he mentioned the matter to the late J. M. Templeton who subsequently formed the first trustee company in Australia."

At the present time Australia has 28 trust institutions, seven public trust offices and 21 trust companies, with numerous branch trust offices.

CANADA

The Dominion of Canada entered the trust field in 1882. The Toronto General Trust Corporation was chartered by the Ontario Legislature in 1872 but did not commence business until 1882. It seems to be the consensus of opinion in Canada that the germ-idea of the trust company came across the border from the United States.

Public trusteeship has not got a foothold in Canada, as the trust business is entirely in the hands of the private companies. Today, according to the most nearly complete statistics that are available, there are 64 trust companies operating in 42 cities and towns of the Dominion.

ENGLAND AND WALES

England and Wales were latecomers in the trust field, although England, of course, gave to the common-law world, including the United States, the trust device itself. While it is, perhaps, true that here and there in London during the 1890's or even earlier a few corporations occasionally and more or less incidentally rendered, not in their own name but in the name of a syndic, trust services, the year 1904 seems to mark the beginning of trust service by chartered companies and 1908, by the state. It was in 1904 that the Royal Exchange Assurance, an insurance company, opened the first special "trustee department." On Jan. 1, 1908 the office of Public Trustee was opened under authority of an Act of Parliament of 1906. Between 1909 and 1911 the Big Five banks each opened a trustee department.

The creation of an office of Public Trustee in 1908 was the culmination of a 20-years' fight. The suggestion, no doubt, came from India, New Zealand, and Australia. The idea of banks engaging in trust business, perhaps, came from the United States. At the present time, in addition to the Public Trustee and the Big Five banks, a number of private banks and of insurance companies also are engaged in trust business.

SCOTLAND

Scotland did not enter the trust field until 1920, when the Bank of Scotland began to offer trust services. It is understood that the idea of banks engaging in trust business came up from London, that the Scottish banks were made by their own customers to realize that, unless Scottish banks themselves went into the trust business, their own bank customers would go to London or to the Scottish offices of English banks for their trust services. There is no Public Trustee in Scotland, and banks are the only corporations engaged in trust business to any appreciable extent. Today all eight of the Scottish banks, having some 1,600 branch offices, are offering trust services.

IRELAND

Ireland has been the last of the common-law countries to enter the trust field. The idea of trust business came across the Irish Sea from England. As was the case with the Scottish banks, the Irish banks were made to understand by their own customers that, unless they, the Irish banks, offered trust services, the people would go to London or to the Irish offices of English banks for their trust services.

Eight of the ten banks in Ireland (including Northern Ireland and the State of Ireland) now are offering trust services, but all of them, with one possible exception, have entered the trust field since 1923. That one possible exception is Munster and Leinster Bank of Cork which obtained the necessary powers as early as 1907 but did not begin trust business until later (the exact date unknown). These eight banks have about 900 branches throughout a country of about 32,000 square miles and 4,000,000 people. Public trusteeship has not been undertaken yet in either the State of Ireland or Northern Ireland.

CONCLUSION

So much for the chronology of a common-law system of trust business. The bringing together of all these nine national systems and calling them a common-law system is amply justified by these facts: (1) the legal systems of all these countries are basically similar, the common-law inherited from England; (2) the trust functions of corporations in all these countries are strikingly similar; (3) the types of corporations engaged in trust business—trust companies, banks, insurance companies—are similar; (4) the basic principles and policies of trust institutions in all these countries are the same, based, as they are and must be, upon the underlying common law; and (5) most of the development in all the countries has been simultaneous and that since 1900.

Each of these nine countries has made or is making some distinctive contribution to the system as a whole. British India, New Zealand, Australia, and England are developing state trusteeship; the United States, England, Scotland and Ireland, the bank as a trust institution; South Africa, Australia, England and, possibly to some extent, Scotland and Ireland, the insurance company as a trust institution; Canada and Australia and, in a small way, the United States of America, the corporation engaged exclusively in trust business; New Zealand and Australia and, in a small way, the United States, the collective investment of trust funds through a Common Fund. In a word, every one of these nine countries has a great deal to teach and a great deal to learn from the other eight about trust business.

FOREIGN EXCHANGE

By Marcus Nadler

Professor, New York University

IMPACT OF WORLD EVENTS

The foreign exchange market during 1938 reflected the highly abnormal political situation prevailing throughout the world. The year was marked by the intensification of warfare in

Spain and in the Far East, by the absorption of Austria by Germany, and the Czechoslovak crisis which culminated in the Munich Agreement. The continued political uncertainties accelerated the flight of capital from the rest of the world to the United States with the result that during the first eleven months about $1,740,000,000 of gold came to the United States. The magnitude and intensity of the panicky transfer of funds to the United States during the Czechoslovakian crisis can be realized from the fact that during September and October alone net imports of gold into the United States amounted to over $1,083,000,000. The gold inflow in each of the two months exceeded the record gold influx in February, 1934 when the devaluation of the dollar caused a repatriation of funds on a large scale. For the purpose of this article the currencies of the world may be divided into several groups:

THE STERLING BLOC

The currencies of the countries of the far flung sterling bloc, as is well known, move more or less in unison with the pound sterling and thereby maintain a mutual stable relationship of their exchanges. The decrease in the international value of the pound from around $5 at the beginning of 1938 to around $4.66 at the end of the year followed by practically all other currencies adhering to the bloc was caused by several factors.

The flow of funds from Great Britain to the United States represented mainly the transfer of foreign capital in search of a refuge at a greater distance from the center of disturbance. However, toward the end of the year British capital also began to seek safety in the United States, and some members of the bloc converted part of their sterling assets into gold or dollar balances.

Short selling by speculators throughout the world likewise tended to weaken the pound. In addition, the sales of future sterling in considerable amounts by American exporters as a hedge against a further decline in the pound, played its part in weakening the pound on the world markets.

Toward the end of the year the outlook for the pound was uncertain despite the favorable reaction to the new trade agreement with the United States. Although the British trade balance has shown an improvement and the excess of imports over exports for the first eleven months of 1938 amounted to about £362,000,000 as contrasted with £390,000,000 during the corresponding period of 1937, yet the necessity for rearmament exercised a depressing influence on the pound. Rearmament means the importation of large quantities of raw materials without a corresponding increase in exports. It also implies the diversion of a large part of the industrial activity of the country to the production of war materials. The fate of the pound, however, barring a war or a run and a break-up of the sterling bloc, is in the hands of the Exchequer which in spite of recent losses of gold by the Exchange Equalisation Account, still is able to maintain the pound at any level it may desire.

The decline in the pound has raised the question of the future of the dollar. The fear is often expressed in financial circles that a further decline in the value of the pound will be followed by a further devaluation of the dollar, but there is no serious ground for this anxiety. A simultaneous devaluation by the same percentage by the leading countries of the world would in itself have little or no effect on commodity prices. It merely would intensify the gold problem in that the higher price of gold would increase the production of the yellow metal throughout the world. Toward the end of the year the gold problem with the huge excess reserves created through the inflow of gold was one of the most important confronting the monetary authorities of the United States and there is no reason to believe that the Administration would aggravate this problem by further devaluation of the dollar.

THE FRENCH FRANC

The franc depreciated materially during the year. At the beginning of 1938 the French franc was quoted at 3.33 cents U.S. currency and at the end of December at around 2.64 cents. Under the influence of the abnormal internal political situation, France was forced again to devalue the franc and in May, 1938 the Minister of Finance announced that the franc would be pegged to the pound at a maximum of 179 francs per pound beyond which the franc would not be allowed to depreciate. Toward the end of the year, however, partly under the influence of the better domestic political outlook, the outflow of capital from France ceased and some degree of repatriation set in. In all probability the movement of the franc in the future will follow that of the pound.

OTHER EUROPEAN EXCHANGES

The currencies of Holland and Switzerland which are officially not tied to the sterling bloc also depreciated during the year in terms of the dollar. Their depreciation, however, was moderate and amounted to less than 3 per cent. Most of the other currencies of Europe are under rigid control and their quotations in the world's markets are therefore merely nominal. In most of these countries several types of blocked currencies are in use so that the free exchange quotations in the international markets are practically of no importance.

SOUTH AMERICAN CURRENCIES

South America, on the whole, enjoyed a peaceful year. Internally as well as externally the political situation was fairly normal. However, the various Latin American countries were adversely affected by the low prices of a number of commodities which form their principal exports and also from the decline in business activity throughout the world. In spite of this, the exchanges of South America, with the exception of those of Argentina and Uruguay, showed a firm tendency. The Argentine peso was also weakened by the currency decrees of Nov. 7 which raised the official selling rate for sterling from 16 to 17 pesos. The movement of the leading South American currencies may be seen from the following table:

EXCHANGE RATES OF SOUTH AMERICAN CURRENCIES, 1938

(In cents per unit of foreign currency)

	Argentina	Brazil (Free Market)	Chile	Colombia	Uruguay
January	33.33	5.58	5.17	55.46	66.46
February	33.45	5.83	5.17	55.07	66.02
March	33.23	5.87	5.17	54.65	65.60
April	33.21	5.87	5.17	54.81	65.55
May	33.12	5.86	5.17	55.45	65.35
June	33.05	5.86	5.17	55.37	65.24
July	32.86	5.85	5.17	56.22	64.86
August	32.54	5.85	5.17	56.56	64.24
September	32.03	5.86	5.18	56.70	63.23
October	31.79	5.85	5.18	57.08	62.74
November	31.38	5.86	5.18	57.14	61.95

CANADA

The Canadian dollar remained fairly stable in relationship to the United States dollar and throughout the year was selling only at a slight discount. Toward the end of the year, great concern was felt in Canada over the future of the dollar. Since about 90 per cent of Canada's foreign trade is with the British Empire and the United States, the Canadian dollar tends to move in between the British pound and the United States dollar. If a material decline in the international value of the pound should occur, it is feared by Canadian business interests that it might reduce the competitive position of Canadian producers of foodstuffs and raw materials in the British markets. It is, of course, not possible to state what the attitude of the Canadian monetary authorities would be under such circumstances, but if the past offers any clue one may assume that a material decline in the pound will be followed by only a moderate decline in the Canadian dollar and the latter will continue to be quoted between the pound and the United States dollar.

FAR EAST

The prolonged war between Japan and China has had practically no effect on Japanese currency. The yen was pegged to the pound and moved more or less in unison with that currency. Its dollar exchange value declined from 29.05 cents in January, 1938 to 27.43 in November. During the same period the Chinese yuan fell from 29.49 cents, U.S. currency, to 15.80 cents. Japan has been able to maintain the stability of its currency in relationship to the dollar primarily through the exports of gold. During the first ten months of 1938 Japan shipped to the United States $148,500,000 gold. As the war between China and Japan continues, the economic resources of both nations are sapped and it is quite obvious that neither of them will be in a position to maintain their respective currencies indefinitely at their present level.

THE OUTLOOK

The outlook for the various currencies of the world depends to a large extent upon political developments. The democratic countries have sufficient gold and foreign exchange resources at their disposal to maintain their currencies at practically any desired level. Furthermore, the balance of payment of the respective countries is better adjusted and, barring further political complications, a renewed flight of capital is not to be expected. The currencies of the totalitarian states are rigidly controlled and they have lost entirely their international character. If an improvement in the political situation of the world should occur, fairly stable exchange conditions may be expected. This applies particularly to the relationship between the United States dollar and the currencies adhering to the sterling bloc. If, however, other political crises should develop, a further flight of capital to the United States is bound to take place which, in turn, is always accompanied or followed by a weakening of the free exchanges.

FOREIGN TRADE

By Roland L. Kramer

Professor, University of Pennsylvania

VOLUME AND VALUE

Foreign trade in 1937 reached the highest figure recorded since the calendar year 1930. The total value of $6,429,000,000 compared with $4,872,000,000 in 1936. Total exports were valued at $3,345,000,000, a gain of 36.2% in value and of 28% in quantity compared with the preceding year. General imports, with a value of $3,084,000,000, were 27.3% greater in value and 11% in volume, as compared with the year 1936. The recovery of foreign trade from the depression low of 1932 was 108% in exports and 133% in imports. Compared with the 1929 figures, however, exports were still 36% and imports 30% less than the high level of that year.

The "favorable" or export balance of trade amounted to $261,000,000 as against the small figure of $34,000,000 in 1936. Net gold imports, for the fourth consecutive year, exceeded $1,000,000,000 and reached a value of $1,586,000,000. Net silver imports, at a value of $87,000,000, were less than one-half the value of the imports for 1936.

EXPORTS, IMPORTS, AND BALANCE OF TRADE OF THE UNITED STATES

(Values in millions of dollars. Data cover years ended June 30 through 1915; thereafter, calendar years)

Yearly Average or Year	Merchandise						Excess of Exports (+) or Imports (−)			
	Exports			General Imports	Imports for Consumption	Per Cent General Imports were of Total Exports	Merchandise	Gold	Silver	Merchandise, gold, and silver
	Total	United States Merchandise	Reexports of Foreign Merchandise							
1910–14	2,166	2,130	35	1,689	1,678	78.0	+477	+17	+20	+515
1921	4,485	4,379	106	2,509	2,557	55.9	+1,976	−667	−12	+1,297
1922	3,832	3,765	67	3.113	3,074	81.2	+719	−238	−8	+473
1923	4,167	4,091	77	3,792	3,732	91.0	+375	−294	−2	+79
1924	4,591	4,498	93	3,610	3,575	78.6	+981	−258	+36	+759
1925	4,910	4,819	91	4,227	4,176	86.1	+683	+134	+35	+852
1926	4,809	4,712	97	4,431	4,408	92.1	+378	−98	+23	+303
1927	4,865	4,759	107	4,185	4,163	86.0	+681	−6	+21	+695
1928	5,128	5,030	98	4,091	4,078	79.8	+1,037	+392	+19	+1,448
1929	5,241	5,157	84	4,399	4,339	83.9	+842	−175	+19	+686
1930	3,843	3,781	62	3,061	3,114	79.6	+782	−280	+11	+514
1931	2,424	2,378	46	2,091	2,088	86.2	+334	−145	−2	+186
1932	1,611	1,576	35	1,323	1,325	82.1	+288	+446	−6	+729
1933	1,675	1,647	28	1,450	1,433	86.5	+225	+173	−41	+358
1934	2,133	2,100	33	1,655	1,636	77.6	+478	−1,134	−86	−742
1935	2,283	2,243	40	2,047	2,039	89.7	+235	−1,739	−336	−1,839
1936	2,453	2,416	37	2,419	2,421	98.6	+34	−1,117	−180	−1,263
1937	3,345	3,295	50	3,084	3,012	92.2	+261	−1,586	−87	−1,412

FOREIGN TRADE FOR ELEVEN MONTHS, 1938

For the eleven-months period January to November, 1938 (complete details for which not being available at time of writing) exports were $2,825,000,000 and imports $1,789,000,000. The excess of merchandise exports amounted to the enormous sum of $1,036,000,000. This figure was more than offset by net imports of gold amounting to $1,733,000,000. Net receipts of silver were $203,000,000.

FOREIGN TRADE FOR NINE MONTHS, 1938

The most significant development in the foreign trade during the nine-months period January-September, 1938 was the enormous decline in the import trade, coupled with a slight decrease in exports. Total exports for this period were valued at $2,295,000,000, a drop of 3.5% in value in spite of an increase of 6% in quantity. The value of general imports was reduced 40.9% to a value of $1,435,000,000 and the volume was 33% less. The merchandise export balance was $860,000,000 compared with a merchandise import balance of $49,000.000 in the corresponding nine-months period of 1937. Net gold imports continued at a high level, reaching $993,000,000; and net receipts of silver were $155,000,000.

Exports of finished manufactured goods declined 4% to account for 50.3% of domestic exports compared with about the same proportion in the January-September period of 1937. Machinery exports advanced 5.7%, with industrial machinery recording an increase of 19% and agricultural implements and machinery improving 9%. Shipments of electrical machinery and apparatus were down 10%. Exports of automobiles, parts and accessories, declined 21%, with passenger cars receding 26% and motor trucks 23%. Refined petroleum products recorded a slight increase by reason of an improvement of 22% in the value of gasoline exports. Shipments of lubricating oil declined 19.6% in value, however. Cotton manufactures were down 3.7%; iron and steel advanced manufactures were 17% less; shipments of aircraft recorded an enormous increase of 100.6%; rubber manufacturers were down 18% as were paper and manufactures; and photographic and projection goods fell off 13%.

Exports of semi-manufactures, with a decline of 27%, fell from second to third place among the export groups arranged according to economic classes. This group comprised 16.4% of domestic exports compared with 21.7% in the preceding nine-months period. Iron and steel mill products were down 37.5%; chemicals (coal tar, industrial and medicinal) declined 10.3%; copper shipments were 13% less; naval stores, gums and resins receded 46.5%; furs and manufactures fell off 26%; and leather dropped 34%.

Exports of crude materials were off 12.7% and comprised 18.2% of domestic exports compared with 20.2% in the January-September period of 1937. Raw cotton shipments were 33% less in value and only 10.6% in quantity. Unmanufactured tobacco increased 30% in value and 15% in volume. Shipments of crude petroleum advanced 25.4% in value and 23% in quantity; while coal and coke recorded a decrease of 19.3% in dollar value and of 21% in tonnage.

Exports of crude foodstuffs improved enormously. With a gain of 306.5% in value, this group comprised 9.4% of domestic exports, compared with 2.2% in the January-September period of 1937. Shipments of corn rose from the insignificant figure of $200,000 to $86,800,000. Exports of wheat continued to improve, recording an advance of 393%, but wheat flour showed no change. Shipments of fruits and nuts were 24% greater and apples gained 55%.

Manufactured foodstuffs and beverages rose 6.4% and comprised 5.7% of the total. Packing-house products were up 25%; lard increased 40% and meats 20%. Canned fruits were down 6%.

FOREIGN TRADE IN MERCHANDISE BY COMMODITY CLASSES

(Proportion composed of each class and percentage changes)

	Proportion of Domestic Exports			Proportion of Imports for Consumption		
	January to September		Per Cent Change 1937–38	January to September		Per Cent Change 1937–38
	1937	1938		1937	1938	
	Per Cent	Per Cent		Per Cent	Per Cent	
Crude Materials	20.2	18.2	−12.6	32.3	29.1	−45.5
Crude Foodstuffs	2.2	9.4	306.5	14.5	13.4	−44.2
Manufactured Foodstuffs	5.2	5.7	6.4	15.0	16.7	−32.4
Semi-Manufactures	21.7	16.4	−27.0	20.8	19.4	−43.4
Finished Manufactures	50.7	50.3	−3.7	17.4	21.4	−25.7

GEOGRAPHIC DISTRIBUTION OF EXPORTS

Only shipments to Europe and South America revealed an improvement over figures for the preceding period. Europe continued to be the largest continental market, comprising 42.5% of the total and advancing 7.2%. Gains were recorded in shipments to the United Kingdom, 10%; Netherlands, 11%; U.S.S.R., 95%; Spain, 211%; and Czecho-Slovakia, 151%. Declines were recorded in the following countries: Germany, 9.5%;

France, 15%; Italy, 27%; Belgium, 14%; Sweden, 1.7%; and Rumania, 5.9%.

While exports to South America rose 2%, shipments to Latin America recorded a recession of 8%. Exports to seven of our 12 best Latin American markets were larger, increases being as follows: Argentina, 2.4% (our leading Latin American market in the January-September period, 1938); Venezuela, 24%; Netherlands West Indies, 31%; Columbia, 0.4%; Chile, 11%; Peru, 3.2%; and Honduras, 18%. Markets that showed a decrease, with the percentage of loss, were Cuba, 14%; Mexico, 44%; Brazil, 3.3%; Panama, 5%; and Guatemala, 9.6%.

Shipments to Asia were down 14% and comprised 16.5% of the total compared with 18.6% in the preceding period. Increases occurred only in sales to Netherlands India, 8.1%; Kwantung, 63%; Turkey, 5%; and Iran, 120%. Our major Asiatic market, Japan, showed a decrease of 26%; Philippine Islands, 2.6%; China, 38%; and British India, 9.8%.

Exports to Canada were off nearly 6%. African markets shrunk 24% with sales to the Union of South Africa receding by approximately the same proportion. Oceania shipments dropped less than 2%, with Australia showing a slight improvement and New Zealand declining 3.5%.

COMMODITY DISTRIBUTION OF IMPORTS

Crude materials, the leading import commodity group, fell off 45.3% and comprised 29.1% of the total compared with 32.2% in the preceding period. Our leading import, crude rubber, showed a decline of 47.7% in value and of 27.6% in quantity. Raw silk dropped 25.7%; furs and manufactures, 51.4%; hides and skins, 67%; wool and mohair, 86%; oilseeds, 49%; and crude petroleum, 14%. Receipts of unmanufactured tobacco were 14.6% greater but imports of unmanufactured vegetable fibres were 44% less.

Imports of finished manufactures, while 25.6% less, comprised the second leading commodity group with 21.4% of the total. Paper and manufactures, mostly newsprint, declined 20%; cotton manufactures, 44%; burlap, 36%; flax, hemp and ramie manufactures, 38%; wool manufactures, 47%; and art works, 24%.

Imports of semi-manufactured goods dropped 43.4% to occupy third place among the commodity import groups. Leading commodities all shared in the recession, as indicated by the following list: wood pulp, down 25%; vegetable oils, expressed, 52.4%; tin, 56.5%; chemicals, 28%; copper, 24%; diamonds, 48%; and sawmill products, 29.5%.

Receipts of manufactured foodstuffs and beverages decreased 32.4% and crude foodstuffs fell off 44.2%. Cane sugar was 22% less in value and 7% in quantity. Coffee receipts, with an increase of 14% in quantity, were 12.3% less in value. Wines and spirits declined 21.3%; cocoa and cacao beans, 64%; packing-house products, 30.5%; and fish, 17.5%. Fruits and nuts decreased 21% and grains (feed and other) practically disappeared from the import trade.

GEOGRAPHIC DISTRIBUTION OF IMPORTS

The loss of 39.4% in the import trade occasioned a heavy decline in receipts from all continental areas. Oceania, with a drop of 79% and Africa with 48%, suffered the greatest decrease. Receipts from Australia were 84% less and from New Zealand, 72%. The Union of South Africa was only 2.2% lower, but Egypt declined 67%, and British West Africa, 75%.

Asia suffered a loss of 42%, with all major countries sharing in the recession, *viz.* Japan, 39%; Philippine Islands, 24%; China, 59%; Netherlands India, 41%; British Malaya, 51%; and British India, 43%. In spite of this reduction, Asia continued to be the leading continental source of imports into the United States.

European shipments to the United States were down 35.5%, nearly all countries sharing in the recession. Greece alone of the important European markets revealed an improvement, the increase being 18%. The major countries, with the respective percentage declines, were United Kingdom, 47%; France, 30%; Germany, 39%; Belgium, 51%; U.S.S.R., 13%; Italy 13%; Sweden, 24%; Netherlands, 51%; and Spain, 35%.

Imports from Latin American countries were 35% less, the percentage decreases for the respective countries being Argentina, 76%; Brazil, 23%; Mexico, 23%; Cuba, 30%; Colombia, 5%; Chile, 33%; Venezuela, 14%; and Peru, 22%. Imports from Canada declined 41%.

COMMODITY CHARACTER OF 1937 EXPORTS

Finished manufactured goods continued to lead the export commodity groups, comprising 49.1% of the total, compared with 47.7% in 1936. This group advanced 40% in value and 34% in quantity. The leading export commodity—machinery—showed an improvement of 43% to record a value of $479,100,000. Agricultural machinery and implements, with a value of $75,400,000, rose 71%; industrial machinery, at $240,500,000, was 52% greater; and electrical machinery and apparatus gained 23% to a value of $112,600,000.

Automobiles, parts and accessories, with a value of $346,800,000, showed an improvement of 44%. Exports of passenger cars increased 31% to $134,800,000; motor trucks expanded 83% to a value of $100,100,000; and automobile engines were 60% greater with a value of $116,600,000.

Refined petroleum products advanced 43% and recorded a value of $253,500,000. Shipments of lubricating oil improved 27% in quantity and 32% in value to $86,600,000; gasoline gained 34% and 37%, respectively, to a value of $84,900,000; gas and fuel oil rose 23% to $42,900,000; and illuminating oil increased 41% to a value of $20,900,000.

Cotton manufactures, including yarn, were 37% higher and were valued at $59,700,000. Iron and steel advanced manufactures improved 37% to a value of $52,100,000. Aircraft, parts and accessories, showed a further increase of 70% to $39,400,000. Rubber manufactures were 37% greater to record a value of $32,100,000; automobile tires, at $13,200,000, showed a rise of 34% while the quantity was 18% more. Paper and manufactures gained 38% to $31,100,000; books and printed matter rose 15% to $22,800,000; photographic and projection goods increased 8% to $22,500,000; medicinal and pharmaceutical preparations were 25% higher with a value of $18,000,000; and paints and varnishes improved 24% to $9,400,000.

Exports of crude materials, advancing 10% in volume and 8% in value to $722,000,000, comprised 21.9% of total exports, compared with 27.6% in 1936. Raw cotton held its position of leading single commodity exported from the United States and rose 8.4% in quantity and 2.1% in value to $368,700,000. Unmanufactured tobacco, at $134,500,000, recorded a decline of 2% although the quantity was 2.2% greater. Crude petroleum shipments, valued at $96,400,000, were 46% higher and the quantity was 33% more. Coal and coke, with an improvement of 20% in quantity, advanced 19% to a value of $67,400,000.

Shipments of semi-manufactures were 40.5% greater in quantity; their value increased 71.6% to $677,000,000; and the group comprised 20.6% of the total. Iron and steel mill products advanced 168.1% to $300,000,000; chemicals gained 24.3% to a value of $87,900,000; copper rose 33.2% in quantity and 84.5% in value to $93,500,000; sawmill products were 24% greater and were valued at $53,700,000; naval stores, gums and resins were up 17% to a value of $22,100,000; furs and manufactures declined 7% to $17,900,000; leather improved 5.5% to $17,300,000.

Manufactured foodstuffs including beverages, with 5.4% of total exports, advanced 16% in quantity and 23.4% in value to $177,000,000. The proportion of total exports was less than for 1936. Packing-house products decreased 1.2% in quantity but increased 2% in value to $42,600,000; lard advanced 18.5% to $16,000,000; and meat products declined 3% to $24,700,000. Wheat flour exports increased 44% to $25,200,000 and canned fruits 11% to $21,100,000.

Exports of crude foodstuffs gained 62% in quantity and 75% in value to $102,000,000, and comprised 3.1% of total exports. Fruits and nuts, other than canned, declined slightly to $61,100,000. Dried and evaporated fruits at $24,900,000 were 23.5% greater; but fresh apples dropped 12% to $11,600,000 and oranges fell off 26.5% to a value of $8,300,000. Wheat exports at $36,000,000 were vastly improved over the 1936 figure of $1,900,000. Barley, grain and malt increased 87% to $8,800,000.

FOREIGN TRADE IN MERCHANDISE BY ECONOMIC CLASSES

(Values in millions of dollars. Import data are "general" imports through 1933, except 1933 in italics; the latter and succeeding years are "imports for consumption". Data cover years ended June 30 for 1910–14, all other are calendar years.)

Yearly Average or Year	Total Value	Crude Materials		Crude Foodstuffs		Manufactured Foodstuffs[1]		Semi-Manufactures		Finished Manufactures	
		Value	Per Cent	Value	Per Cent	Value	Per Cent	Value	Per Cent	Value	Per Cent
EXPORTS OF UNITED STATES MERCHANDISE											
1910–14	2,130	713	33.5	127	5.9	295	13.8	342	16.0	654	30.7
1921	4,379	984	22.5	673	15.4	685	15.7	410	9.4	1,627	37.1
1922	3,765	988	26.3	459	12.2	588	15.6	438	11.6	1,292	34.3
1923	4,091	1,208	29.5	257	6.3	583	14.3	564	13.8	1,478	36.1
1924	4,498	1,333	29.6	393	8.7	573	12.8	611	13.6	1,588	35.3
1925	4,819	1,422	29.5	318	6.6	574	11.9	662	13.7	1,843	38.3
1926	4,712	1,261	26.8	335	7.1	503	10.7	656	13.9	1,957	41.5
1927	4,759	1,193	25.1	421	8.8	463	9.7	700	14.7	1,982	41.6
1928	5,030	1,293	25.7	295	5.9	466	9.3	716	14.2	2,260	44.9
1929	5,157	1,142	22.2	270	5.2	484	9.4	729	14.1	2,532	49.1
1930	3,781	829	21.9	179	4.7	363	9.6	513	13.6	1,898	50.2
1931	2,378	567	23.8	127	5.3	247	10.4	318	13.4	1,120	47.1
1932	1,576	514	32.6	89	5.7	152	9.7	197	12.5	624	39.6
1933	1,647	591	35.9	48	2.9	155	9.4	237	14.4	617	37.4
1934	2,100	653	31.1	59	2.8	168	8.0	342	16.3	879	41.8
1935	2,243	683	30.4	59	2.6	157	7.0	350	15.6	994	44.3
1936	2,419	668	27.6	58	2.4	144	5.9	395	16.3	1,154	47.7
1937	3,295	772	21.9	102	3.1	177	5.4	677	20.6	1,617	49.1
IMPORTS											
1910–14	1,689	595	35.2	203	12.0	194	11.5	307	18.2	389	23.1
1921	2,509	859	34.2	300	12.0	368	14.7	362	14.4	620	24.7
1922	3,113	1,180	37.9	330	10.6	387	12.4	553	17.8	663	21.3
1923	3,792	1,407	37.1	363	9.6	530	14.0	721	19.0	771	20.3
1924	3,610	1,258	34.0	425	11.8	522	14.4	665	18.2	749	20.8
1925	4,227	1,748	41.4	495	11.7	433	10.2	755	17.9	796	18.8
1926	4,431	1,793	40.5	540	12.2	418	9.4	804	18.1	877	19.8
1927	4,185	1,601	38.3	505	12.1	451	10.8	750	17.9	879	21.0
1928	4,091	1,467	35.8	550	13.4	406	9.9	763	18.6	906	22.2
1929	4,399	1,559	35.4	539	12.2	424	9.6	885	20.2	994	22.6
1930	3,061	1,002	32.7	400	13.1	293	9.6	608	19.9	757	24.7
1931	2,091	642	30.7	305	14.6	222	10.6	372	17.8	549	26.3
1932	1,323	358	27.1	233	17.6	174	13.2	217	16.4	341	25.7
1933	1,450	418	28.8	[2] 216	14.9	[2] 201	13.9	292	20.1	322	22.2
1933 [3]	*1,433*	*420*	*29.3*	*215*	*15.0*	*191*	*13.3*	*290*	*20.2*	*317*	*22.1*
1934	1,636	461	28.2	254	15.5	264	16.1	307	18.8	350	21.4
1935	2,039	582	28.6	322	15.8	319	15.6	410	20.1	406	19.9
1936	2,424	733	30.2	349	14.4	386	15.9	490	20.2	466	19.2
1937	3,012	974	32.3	413	13.7	440	14.6	634	21.1	551	18.3

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[1] Includes beverages.

[2] Revised.

[3] See headnote.

COMMODITY CHARACTER OF 1937 IMPORTS

Crude materials were again the leading import commodity group and recorded the greatest increase over the preceding year. Imports of crude materials advanced nearly 12% in quantity and 32.8% in value to $974,000,000 and comprised 32.3% of total imports.

The leading imported commodity again was crude rubber. Imports of rubber increased 23% in tonnage and 56% in value to $247,500,000. Raw silk, at $106,600,000, was 4% higher but the quantity was 5% less. Wool and mohair gained 26.5% in volume and the value of $96,400,000 was 81% greater. Furs and manufactures advanced 5.6% to $86,200,000. Hides and skins, with a slight improvement in quantity, showed a gain of 29.7% in value to $71,100,000. Oilseeds increased substantially, the value of $63,500,000 being 71.5% more; flaxseed rose 83% in quantity and 100% in value to $35,200,000. Unmanufactured tobacco advanced 16% in volume and 14.5% in value to $34,200,000; and unmanufactured fibres other than flax or cotton improved 17% to a value of $28,300,000. Crude petroleum declined 17% in quantity and 11% in value to $20,700,000.

Imports of semi-manufactured merchandise showed an improvement of 15% in quantity and of 29.4% in value to $634,000,000 and comprised 21.1% of total imports. Paper base stocks rose 19% and were valued at $117,900,000; wood pulp, with an increase of 5% in tonnage and of 18.6% in value, amounted to $98,300,000. Vegetable oils, expressed, gained 31% to a value of $112,000,000. Receipts of tin (bars, bocks and pigs) were 16% greater in tonnage and 38% in value of $104,300,000. Chemicals and related products, with a value of $102,600,000, showed an improvement of 28%. Copper, including ores and manufactures, advanced 24% in tonnage and 76% in value to $52,600,000. Diamonds, at $44,100,000, were 33% greater in value and 46% in quantity. Sawmill products gained 11% to a value of $26,200,000; iron and steel mill products improved 12% to a value of $24,100,000; and nickel ore, matte and alloy, with a 3% expansion in tonnage, was slightly greater in value with $23,600,000.

Imports of finished manufactures, with an expansion of 14% in quantity and of 18.3% in value, were recorded at $551,000,000 and comprised 18.3% of total imports for consumption. Paper and manufactures advanced 24.5% to a value of $137,100,000; newsprint, with a gain of 20.5% in volume and of 27% in value, was recorded at $122,500,000. Cotton manufactures, at $56,900,000, were 17% higher; cotton cloth increased 29% in quantity and also in value to $13,600,000. Burlaps improved 18% in quantity and 16% in value to $41,100,000. Manufactures of flax, hemp and ramie advanced 7% to a value of $32,500,000; manufactures of wool, including yarns, increased 7.5% to a value of $31,900,000; petroleum, advanced and refined, gained 29% in volume and 35% in value to $22,100,000; and art works declined 16% to a value of $21,800,000.

Manufactured foodstuffs, including beverages, advanced 11.8% in quantity and 14% in value with $440,000,000 and comprised 14.6% of the total. Crude foodstuffs declined slightly in quantity but improved 18.5% in value to $413,000,000, which represented 13.7% of total imports for consumption.

Cane sugar, second leading single import commodity, increased 7.8% in quantity and 5.3% in value to $166,200,000. Coffee, third leading article, declined 2.4% in volume but improved 12.4% in value to $150,600,000. Wines and spirits dropped 3.5% to a value of $72,700,000. Receipts of fruits and nuts were 16% greater, the value being $67,300,000. Grains (corn, oats, rye, barley) advanced 159% to a value of $66,000,000. Cocoa or cacao beans fell off 2% in quantity but improved 58.5% in value to $52,300,000. Packing-house products, at $41,700,000, were 34% greater; meat products, with a value of $39,800,000, rose 56%. Fish, including shellfish, gained 11.7% to record a value of $33,900,000; vegetables and preparations increased 25% to a value of $25,200,000; tea advanced 15% in quantity and 20% in value to $21,300,000; fodders and feeds improved 31% and were valued at $16,000,000; dairy products declined 2% to a value of $15,800,000; and spices decreased 8% to a value of $11,500,000.

GEOGRAPHIC DISTRIBUTION OF 1937 EXPORTS

While all continents shared in the 36.2% expansion in 1937 exports, Latin America and Asia showed the greatest improvement. Shipments to Europe advanced 30% to attain a value of $1,355,700,000 and they comprised 40.5% of total exports. This is the smallest proportion of American export trade ever taken by the continent of Europe. Exports to all countries with the chief exceptions of Spain and Greece were greater. Czecho-Slovakia registered the greatest proportional improvement with 183% to record a value of $13,200,000. Our leading world market, United Kingdom, gained 21.5% to a value of $534,600,000. Our fourth leading world market—France—improved 27% to a value of $164,300,000. The fifth world market—Germany—rose 22% to record a value of $124,200,000. The seventh world market was Belgium and our ninth, Netherlands. These two countries registered increases of 62% and 77% to reach values of $95,100,000 and $94,100,000, respectively.

Increases in exports to other European markets arranged in the order of their gain, together with the value of exports recorded in 1937, were Portugal, 77% and $15,100,000; Irish Free State, 70% and $12,600,000; Finland, 64% and $12,300,000; Sweden, 50% and $64,400,000; Norway, 44% and $22,200,000; Denmark, 41% and $17,200,000; Italy, 30% and $76,800,000; Poland and Danzig, 30% and $26,300,000; Soviet Union (U.S.S.R.) 28% and $43,000,000; and Switzerland, 26% and $9,600,000. The decline in the case of Spain amounted to 72%, reducing the value of exports to that market to $5,900,000; and shipments to Greece dropped 7% to a value of $5,600,000.

Exports to Latin America (composed of Southern North America and South America) recorded the greatest increase of all of the continents. With a value of $639,700,000, shipments to Latin America showed an advance of 49% and comprised 19.1% of total exports. All markets in this area shared in the expansion. Mexico was our sixth world market, purchasing goods to a value of $109,400,000, an increase of 44%. Our eighth world market—Argentina—gained 65% to a value of $94,200,000. Cuba, tenth world market, improved 37% to record a value of $92,300,000. Other countries, arranged in the order of their advance over the preceding year and with the value of our exports to each, were Netherland West Indies, 142% and $34,200,000; Venezuela, 93% and $46,500,000; Guatemala, 67% and $7,600,000; Uruguay, 55% and $13,200,000; Chile, 53% and $24,000,000; Ecuador, 52% and $5,000,000; Costa Rica, 48% and $4,400,000; Peru, 41% and $19,000,000; Colombia, 41% and $39,200,000; and Brazil, 40% and $68,600,000.

Exports to Asia, valued at $579,700,000, rose 45% and comprised 17.4% of total exports. As in the case of Latin America, all markets in Asia shared in the substantial improvement. The influence of the struggle in China was reflected in the gain of 353% in shipments to Kwantung, with a value of $16,000,000; and of 136% in exports to Hong Kong, the value being $20,100,000. Turkey showed a rise of 140% to record a value of $14,900,000. Japan, third leading world export market, advanced 41% to a value of $288,400,000. Other increases and value figures are Netherlands India, 82% and $25,000,000; British Malaya, 76% and $8,800,000; British India, 63% and $43,700,000; Philippine Islands, 41% and $85,000,000; and China, 6% and $49,700,000.

Canada and Newfoundland advanced 33% to record a value of $519,200,000 and accounted for 15.5% of total exports. Canada, at $509,500,000, was our leading export market.

African markets improved 33% to a value of $152,000,000 and comprised

FOREIGN TRADE BY CONTINENTS AND TRADE REGIONS

NOTE.—Exports include reexports of foreign goods. Data for 1910–14 cover years ended June 30; all other are for calendar years. The Philippine Islands are included in Asia for all years; Turkey in Europe is included in Asia beginning 1928; U.S.S.R. (Russia) in Asia is included in Europe beginning 1935.

(Values in millions of dollars)

Yearly Average or Year	Total	North America				South America		Europe		Asia		Oceania		Africa	
		Northern		Southern											
		Value	Per Cent	Value	Per Cent	Value	Per Cent	Value	Per Cent	Value	Per Cent	Value	Per Cent	Value	Per Cent
Exports															
1910–14	2,166	320	14.8	181	8.4	121	5.6	1,350	62.3	121	5.6	48	2.2	25	1.1
1921	4,485	600	13.4	529	11.8	273	6.1	2,364	52.7	533	11.9	113	2.5	73	1.6
1922	3,832	583	15.2	332	8.7	226	5.9	2,083	54.4	449	11.7	102	2.7	56	1.5
1923	4,167	661	15.8	426	10.2	269	6.5	2,093	50.2	511	12.3	146	3.5	61	1.5
1924	4,591	634	13.8	456	9.9	314	6.8	2,445	53.3	515	11.2	157	3.4	70	1.5
1925	4,910	659	13.4	480	9.8	403	8.2	2,604	53.0	487	9.9	189	3.9	89	1.8
1926	4,809	748	15.5	429	8.9	444	9.2	2,310	48.0	565	11.7	213	4.4	101	2.1
1927	4,865	845	17.4	408	8.4	438	9.0	2,314	47.6	560	11.5	194	4.0	107	2.2
1928	5,128	924	18.0	397	7.7	481	9.4	2,375	46.3	655	12.8	180	3.5	117	2.3
1929	5,241	961	18.3	434	8.3	539	10.3	2,341	44.7	643	12.3	192	3.7	131	2.5
1930	3,843	671	17.5	349	9.1	338	8.8	1,838	47.8	448	11.7	108	2.8	92	2.4
1931	2,424	404	16.7	187	7.7	159	6.5	1,187	49.0	380	15.9	42	1.7	60	2.5
1932	1,611	246	15.3	119	7.4	97	6.0	784	48.7	292	18.2	37	2.3	36	2.2
1933	1,675	215	12.8	126	7.5	114	6.8	850	50.7	292	17.4	35	2.1	43	2.6
1934	2,133	308	14.4	178	8.3	162	7.6	950	44.5	401	18.8	57	2.7	77	3.6
1935	2,283	330	14.4	202	8.8	174	7.6	1,029	45.1	378	16.6	74	3.2	96	4.2
1936	2,453	391	16.0	225	9.2	205	8.3	1,040	42.4	399	16.3	79	3.2	114	4.7
1937	3,345	519	15.5	321	9.6	318	9.5	1,356	40.5	580	17.4	99	3.0	152	4.5
General Imports															
1910–14	1,689	119	7.0	229	13.5	207	12.2	836	49.5	259	15.3	17	1.0	23	1.3
1921	2,509	338	13.5	417	16.6	296	11.8	765	30.5	618	24.6	35	1.4	40	1.6
1922	3,113	367	11.8	456	14.6	359	11.5	991	31.8	827	26.6	49	1.6	65	2.1
1923	3,792	418	11.0	583	15.4	467	12.3	1,157	30.5	1,020	26.9	59	1.6	87	2.3
1924	3,610	402	11.1	593	16.4	466	12.9	1,096	30.4	931	25.8	49	1.4	73	2.0
1925	4.227	459	10.9	522	12.3	519	12.3	1,238	29.3	1,319	31.2	78	1.8	92	2.2
1926	4,431	486	11.0	526	11.9	568	12.8	1,286	29.0	1,401	31.6	68	1.5	96	2.2
1927	4.185	484	11.6	501	12.0	518	12.4	1,276	30.5	1,257	30.0	55	1.3	93	2.2
1928	4,091	500	12.2	461	11.3	569	13.9	1,249	30.5	1,169	28.6	53	1.3	90	2.2
1929	4,399	514	11.7	467	10.6	640	14.5	1,333	30.3	1,280	29.1	57	1.3	109	2.5
1930	3,061	414	13.5	347	11.3	434	14.2	909	29.7	856	28.0	33	1.1	68	2.2
1931	2,091	277	13.3	240	11.5	307	14.7	640	30.6	574	27.5	19	.9	33	1.6
1932	1,323	181	13.7	157	11.9	201	15.2	389	29.4	362	27.4	8	.6	24	1.8
1933	1,550	191	13.2	127	8.8	202	14.0	462	31.9	426	29.4	13	.9	28	1.9
1934	1,655	238	14.4	161	9.7	229	13.8	489	29.6	490	29.6	15	.9	33	2.0
1935	2,047	293	14.3	201	9.8	281	13.7	599	29.2	605	29.5	26	1.3	42	2.0
1936	2,423	381	15.7	237	9.8	292	12.0	718	29.6	708	29.2	36	1.5	51	2.1
1937	3,084	408	13.2	283	9.2	422	13.7	844	27.3	967	31.4	68	2.2	92	3.0

4.5% of total. British South Africa gained 26% to a value of $90,000,000; Egypt improved 37% to reach a value of $13,700,000; British West Africa rose 34% to a value of $10,000,000; and Portuguese Africa gained 43% to attain a value of $9,700,000.

Exports to Oceania were 25% greater and, with a value of $98,800,000, comprised 3% of total exports.

Australia showed an expansion of 25% to a value of $73,400,000; and New Zealand was 22% higher with a value of $23,800,000.

SOURCES OF 1937 IMPORTS

The increase of 27.3% in general imports was not distributed evenly among the several continental sources. In consequence of an expansion of 37%, Asia regained leadership among the continents. Imports from Asia were valued at $967,400,000 and comprised 31.4% of the total. Five of the ten leading countries in the import trade are located in Asia. British Malaya, second import source, advanced 40% to a value of $235,200,000. Our third supplier—Japan—improved 19% to reach a value of $204,200,000. Our seventh source was the Philippines, which gained 24% to a value of $126,200,000. Netherlands India, ninth supplier, was 65% higher with a value of $115,200,000. British India was our tenth source and China the eleventh. Imports from these countries rose 47% and 40%, respectively, and the value was $103,600,000 for each country. Receipts from Turkey were 82% greater and were valued at $17,800,000. Kwantung declined 7% to a value of $3.700,000.

Europe, with a value of $843,600,000, gained 18% and comprised 27.3% of the total. With an increase of only 1%, United Kingdom dropped to fourth place among world suppliers, with a value of $202,800,000. Arranged in the order of proportional improvement, in which all important European countries, with the exception of Spain, shared, together with the value of imports in 1937, the several countries are Denmark, 124% and $6,800,000; Irish Free State, 93% and $1,800,000; Soviet Union (U.S.S.R.), 50% and $30,700,000; Greece, 66% and $17,800,000; Czecho-Slovakia, 58% and $37,200,000; Poland and Danzig, 61% and $19,600,000; Switzerland, 30% and $26,800,000; Portugal, 28% and $8.800,000; Belgium, 27% and $75,100,000; Sweden, 22% and $58,600.000; Italy, 19% and $48,200,000; Norway, 20% and $26,000,000; Germany, 16% and $92,600,000; France, 16% and $75,600,000; Finland, 14% and $17,600,000; and Netherlands, 7% and $53,300,000. Imports from Spain declined 25% to a value of $13,800,000.

Imports from Latin American countries showed an improvement of 33% and, with a value of $704,800.000, comprised 22.9% of the total. With but few exceptions, all countries south of the Rio Grande shared in the advance of the year. Three of the ten leading countries in the import trade were in Latin America. Cuba, fifth leading source, gained 16% to a value of $148,000,000. Argentina, sixth source, was 111% higher and recorded a value of $139,100,000. Brazil, eighth leading country of import, improved 18% to a value of $120,600,000. With percentages of increase and values of import in 1937, other countries in Latin America are: Peru, 83% and $16,500,000; Chile, 79% and $46.200,000; Salvador, 70% and $8,500,000; Nicaragua, 64% and $3,100,000; Haiti, 59% and $2,900,000; Dominican Republic, 38% and $7,400,000; Mexico, 23% and $60,100,000; Colombia, 21% and $52,300,000; Ecuador, 20% and $4.000,000; and Uruguay, 13% and $13,800,000. Latin American countries from which imports were less are Venezuela, down 13% to $22.800.000; Honduras, 7% less to a value of $5,700,000; and Jamaica 4% lower with a value of $1,600,000.

Northern North America improved 7% and, with a value of $407,700,000, comprised 13.2% of total imports. Receipts from Canada were 6% greater, giving a value of $398,500,000 to imports from our leading source. Newfoundland and Labrador gained 73% to a value of $8.400.000.

Imports from African markets advanced 79% to record a value of $92,100,000, which comprised 3% of the total. Portuguese Africa was 58.1% higher with a value of $1.000,000. British South Africa gained 146% to a value of $19.000,000. British West Africa was 97% more with a value of $35,800.000. Algeria and Tunisia improved 91% to $4.800,000. Egypt joined in the advance with an increase of 31% to a value of $13.500.000.

Oceania showed the best improvement of all of the continents, with a gain of 91% and a value of $68,400,000, which comprised 2.2% of total imports. Receipts from Australia were 90% higher and were valued at $43,600,000. New Zealand increased 92% to a value of $22,200,000.

THE EXPORT AND IMPORT BALANCE

BY AMOS E. TAYLOR

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GENERAL

The international transactions of the United States during 1938 were dominated by an exceptionally large merchandise export balance, by a net inward gold movement higher in value than in any previous year except 1935, and by an abnormally large movement of capital funds heavily outward during the first half of the year and inward at an unprecedented rate during September and October. Only the large excess of merchandise exports represented a sharp change in the trend which has continued to feature the balance of international payments of the United States during the past five years. Net gold imports, averaging more than $1,000,000,000 annually, and relatively large net inward movements of capital have in effect defined the general nature of each year's international financial transactions beginning with 1934.

The merchandise export surplus in 1938, estimated on the basis of available data for the first 11 months of the year at $1,105,000,000, represented the largest active commodity balance since 1921. Although the shift of the United States during the World War from a net debtor to a net creditor position has at no time produced a reversal of the annual export balance which has been a characteristic of the country's foreign trade position for more than half a century, the excess of merchandise exports declined during the early post-war years and after 1921 approximated $1,000.000,000 only in 1924 and in 1928. Beginning in 1931, when declining prices and world-wide depression forced the level of international trade sharply downward, the annual active commodity balance moved irregularly downward and reached a virtually negligible export balance of $33,000,000 in 1936. The pronounced rise within two years to an export surplus of more than $1,000,000,000 resulted from a series of influences, some of which may be viewed as of only a transitory character.

The net inflow of gold from imports and earmarking operations during 1938 amounted to approximately $1,640,000,000 and was exceeded only in 1935 when net additions to the country's monetary gold stock from foreign sources aggregated $1,739,000,000. Largely as a result of an annual average inflow of gold during the five-year period, 1934–38, the monetary gold stocks of the United States, which stood at $7,438,000,000 immediately after revaluation on Jan. 31, 1934, rose to $14,508,000,000 by the end of 1938.

For the fifth consecutive year international capital transactions resulted in a net inward movement of funds. On the basis of reported movements for the first nine months of the year, a net gain from foreign sources of approximately $800,000,000 in gold during the last quarter and an export merchandise balance of about $344,000,000 during the same three months, it is estimated that the year's net capital inflow was at least $400,000,000, as compared with an annual average inward movement of more than $1,000,000,000 during the three years 1935–37. The concentration of the year's major outward and inward movements within relatively short periods of time produced a powerful impact upon the international exchanges, especially during the third quarter of the year when the net inflow amounted to $610,000,000 or considerably more than the estimated net inward movement for the year as a whole. The Czech-Sudeten crisis, which developed ominous implications during August, and the subsequent tension throughout Europe, resulted in a flight of capital to the United States which centered on both English and foreign-owned sterling balances in London. The unprecedented drain upon the British Equalisation Fund drove sterling steadily downward during the second half of the year until late in September when a precipitous drop carried it to $4.60 on Sept. 28. At that point it recovered support when the panic in the exchange markets suddenly subsided with the official report that a Four Power Conference was to meet at Munich on the following day, but then weakened steadily to almost the same low level by the end of the year.

FACTORS AFFECTING THE EXPORT-IMPORT BALANCE

With the exception of the European political crisis of September the factors which determined the dominant trends in the export-import balance during 1938 had become operative in 1937 or even before. The relatively high level of business activity during 1936 continued during the first half of 1937, after which a very sharp decline set in. From the middle of 1936 to the middle of 1937 commodity prices moved upward, merchandise imports exceeded exports by a monthly average of nearly $9,000,000, and the dollar, influenced by a persistently heavy net inward capital movement, was uniformly strong in the exchange markets. Coincidental with the recession which began in the middle of 1937 these trends were all sharply reversed. Wholesale prices receded more than 10 per cent from July, 1937 to June, 1938, stock prices declined nearly 40 per cent, the foreign trade balance developed a uniformly large excess of merchandise exports which averaged $86,000,000 per month, while by the final quarter of the year a heavy outward capital movement was definitely under way.

The tendency of the dollar during recent years to strengthen during periods of excess merchandise imports and to be under pressure coincidental with substantial export balances indicated not only that abnormal factors have operated in the exchange markets, but also suggested a close connection between these abnormal influences and the trend in the merchandise balance. Net inward capital movements during 1936 and the first three quarters of 1937 coincided in general with excess merchandise imports, while the period of heavy net outward capital movements during the final quarter of 1937 and the first half of 1938 was also one of relatively large net merchandise exports. Although it is certain that capital movements were a more important factor in the exchange markets during 1937 and 1938 than the merchandise balance, it is important to note that the shift in the latter from an excess of imports to an export surplus was itself caused in part by abnormal factors which were totally unrelated to international capital movements. Further appraisal of these factors requires an examination of each of the respective groups of so-called "balances."

THE MERCHANDISE BALANCE

Merchandise exports of approximately $3,070,000,000 in 1938 were only about 8 per cent lower than exports during 1937. On the other hand, the year's imports of approximately $1,960,000,000 were about 36 per cent less than in the preceding year. On the basis of actual quantity, exports were approximately as high and imports nearly 30 per cent lower than in 1937. It is apparent, therefore, that the sharp increase in the export surplus resulted primarily from a marked drop in imports rather than from any appreciable change in exports. Because of the drought in 1936 an important element in imports during the first half of 1937 had been purchases of foreign wheat and corn. Favorable crops and the consequent reduction in the import demand at home together with an expansion of exports of agricultural products thus exerted a double influence on the merchandise balance in 1938. The decline in business activity diminished the demand for foreign raw materials during a great part of 1938, causing a drop in import values which was further influenced by the sharp decline in prices.

THE SERVICE BALANCE

For certain purposes the service balance may be considered under two sub-headings: (1) interest and dividend items and (2) other services. The dollar values reflected in the first of these two groups are only in part dependent upon the same factors as other so-called "service" transactions. Although all items in the service balance tend to be influenced directly by changes in the level of business activity throughout the world, the long-range movement in annual interest and dividend transfers is dependent upon the nature and volume of international investments affecting the creditor-debtor position of the United States. The international capital movements of the past five years have combined to reduce American investments abroad and to increase foreign investments in the United States. This reduction in the net creditor position of the United States is not as definitely reflected in the interest and dividend account because of the relatively large volume of foreign-owned dollar balances which yield no earnings.

Since 1935 dividends received in this country on so-called "direct" investments abroad have been the major element in total investment income. Interest defaults on various foreign dollar bonds after 1930 caused a sharp reduction in total interest receipts, while the effects of world-wide depression reduced the returns on other classes of long-term investments abroad. From a low point of $461,000,000 in 1932, total receipts rose steadily to $608,000,000 in 1937 and fell back again in 1938 to considerably less than $500,000,000, largely as a result of adverse business conditions and a sharp decline in raw material prices which reduced the earning capacity of the large investments in raw material industries. An important factor which is steadily exerting a downward pull on the interest item is the year-by-year reduction, through redemptions and sinking fund purchases, in the total issues outstanding. Holdings of the latter by American investors have in turn been further reduced through repatriations which at intervals have involved substantial transfers from American to foreign hands.

The volume of interest and dividend payments by this country to investors resident in foreign countries tends to vary with the general level of dividend payments by American corporations. The most important single type of foreign investment in the United States is that represented by corporate common shares in small (*i.e.* non-controlling) blocks. The steady increase in interest and dividend payments to foreigners from $103,000,000 in 1933 to $278,000,000 in 1937 reflects in large part the heavy, though at times irregular, flow of foreign funds into American securities.

The second important group of service transactions relates to a large number of items of which three are especially important, namely, freights, tourist travel and remittances. In each of these transactions payments exceed receipts and the aggregate net payments normally provide a source of dollars much more than sufficient to cover net receipts on interest and dividend account. Although there are various minor influences which affect these items, the general trend is determined largely by the course of business and the level of national income in the United States. As in 1937, the general category of service transactions, exclusive only of interest and dividend items, required net payments in 1938 of somewhat more than $500,000,000. In each year the net payments required by the three more important "invisibles" included in this category amounted to more than $600,000,000.

GOLD AND SILVER BALANCE

Since the devaluation of the dollar early in 1934, gold has moved to the United States in an almost unbroken stream. Periodically the inflow has become highly accelerated as a result of political and financial crises abroad. A series of budgetary and political crises in France during 1935 and the European war scare generated by the Italo-Ethiopian conflict late in the same year were definitely causal factors in that year's extraordinarily heavy capital flight from Europe to the United States and the closely related inrush of gold. Similarly, during the second half of 1938 the heavy inflow of gold, induced by an unprecedented flight of capital from Europe, raised the total net imports for the year to a level exceeded only in 1935. Other geographic sources of gold inflow during recent years, while not as large as the amount drawn directly or through stabilization funds from French and other European central bank reserves, have nevertheless contributed materially to the high level of the incoming stream. Newly-mined gold from South Africa and other areas became an important means, through the medium of the London market, whereby the foreign demand for dollars has been met and substantial shipments by Japan have provided that country with a great part of its much needed supply of dollars and, through conversion into foreign currencies, of European funds.

Since the Silver Purchase Act of 1934 declares it a national policy to have the country's monetary reserves consist of one-fourth silver, the Treasury, in carrying out this policy, has since that time engaged in foreign silver purchases which resulted during 1938 in a net inward movement of $226,000,000. This was exceeded in value only by the gain of $336,000,000 from foreign sources in 1935 when prices paid abroad for the metal were considerably higher. As a result of the provisions of the Act of 1934, silver imports are appropriately included in the same category as gold for the purpose of export-import balance interpretation. In view of the manner in which our monetary mechanism functions, the importation of either gold or silver will normally lead to an equivalent expansion of the domestic money supply unless counteracted by special action. From December, 1936 to April, 1938 such action was embodied in the sterilization of all incoming gold in an "inactive" account. This policy, which originally provided for the sterilization of all new gold acquired by the Treasury, was modified several times during the business recession of 1937–38, and definitely abandoned on April 14, 1938 when the remaining inactive gold, valued at approximately $1,400,000,000, was released into the banking credit reservoir.

THE CAPITAL BALANCE

The net effect during 1938 of international transactions in American and foreign securities, the net liquidation and repatriation of American short-term banking assets abroad, and the sharp increase in foreign-owned dollar balances was a net capital inflow estimated at approximately $400,000,000. Although this net movement involved a volume of dollar funds only slightly more than half the net inward movement of 1937 and considerably less than half the corresponding net amounts transferred in each of the years 1935 and 1936, the net effect upon the exchanges was, for reasons already indicated, more pronounced. In 1937 the steady net capital inflow of the first three quarters was substantially offset during the final quarter by a net outflow of approximately $500,000,000; in 1938 the outward movement continued during the first half of the year, only to be sharply reversed during the third quarter. During each of the two years the volume of international capital transfers was obscured by the fact that heavy movements in one direction during part of the year were offset in large part by movements in the opposite direction during the remainder of the year.

The inauguration of the outward movement, which got well under way by the third quarter of 1937 and which assumed large proportions during the last three months of the year, coincided with a decline in commodity prices and with rumors abroad that further dollar devaluation would be resorted to in the United

States as a means of reversing the course of declining prices and other business indexes. During the earlier period of 1936 and 1937 when these indexes were firm or moving upward the net capital movement had been strongly inward even in the face of a more or less continuous merchandise import balance. Such relationships are hardly sufficient to establish a definite principle governing the nature and character of capital movements, but it is nevertheless apparent that the international capital movements of recent years include a large mass of capricious funds moving at times in large volume from one center to another and sensitive, even in the absence of political crises, to rumors of impending changes in monetary and budgetary policy.

Another phenomenon of recent international capital movements, especially during 1938, is reflected in the degree to which the direction of movement of security funds may run counter to the direction of movement of short-term banking funds. During the period of heavy capital outflow late in 1937, net foreign purchases of American securities continued in appreciable volume. On the other hand, the heavy inrush of short-term funds during the third quarter of 1938 was

BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES FOR 1937 AND 1938

(In millions of dollars)

	1937			1938[1]		
	Dollar Receipts	Dollar Payments	Net Receipts (+) or Net Payments (−)	Dollar Receipts	Dollar Payments	Net Receipts (+) or Net Payments (−)
Trade and Service Items:						
Merchandise	3,345	3,084	+261	3,070	1,965	+1,105
Interest and dividends	608	278	+330	465	205	+260
Other services	626	1,193	−567	600	1,120	−520
Total trade and service items	4,579	4,555	+24	4,135	3,290	+845
Gold and Silver Movements:						
Net gold movements[2]			−1,386	....		−1,640
Net silver movements			−83	....		−226
Net gold and silver movements			−1,469	....		−1,866
Capital Movements:						
Long-term[3] (net)			+522	....		[4]
Short-term[5] (net)			+290	....		[4]
Miscellaneous[6]			+5	....		[4]
Net capital movements			+817	....		[4]
Residual Item[7]:			+628	....		[4]

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[1] Preliminary estimates. Merchandise exports and imports are estimated on the basis of data for the first eleven months.

[2] Including reported earmarking operations.

[3] This item relates primarily to the movement of funds in international security transactions. These transactions include many operations which are, in effect, not necessarily of a "long-term" character.

[4] Items III and IV, which aggregate $1,021,000,000, cannot be segregated until reported data on capital movements for the entire year are available. On the basis of reported movements for the first nine months of the year and the net inflow of gold, amounting to approximately $900,000,000, during the final quarter it is estimated that the net capital inflow during 1938 was approximately $400,000,000, the major part of which was of a short-term nature.

[5] Transactions reported under this item relate primarily to movements of short-term banking and brokerage funds.

[6] Including estimated currency movements.

[7] Net results of errors and omissions in preparing estimates, certain stabilization fund operations, unreported capital items, etc.

accompanied by a heavy net liquidation of foreign-held domestic securities, the proceeds of which were presumably converted into dollar balances. The movement of foreign funds into, and out of, American securities tends to be less erratic than the international shifts of short-term funds. The liquidation of foreign-held American securities during the third quarter of 1938 simultaneously with the flight of foreign funds into dollar balances implies no paradoxical circumstance since it was widely believed that the immediate impact of a European war would lead to seyere weakness in the American security markets and the two-way capital movements were therefore induced by a common fear. In contrast with the exceedingly shifty movements of short-term banking funds and the less irregular movements of foreign funds into American securities, the foreign purchases and sales of foreign securities in the American markets have rather consistently resulted in net purchases, largely because the dominant factor involved—purchases for redemption and sinking-fund purposes—is not seriously affected by short-term business and market conditions.

CONCLUSION

During 1938, capital movements and gold movements in the United States balance of international payments were closely related, although the respective net transfers showed a wider differential than during other recent years because of the persistent foreign demand for dollars growing out of an exceptionally large merchandise export balance. As in 1935, inward flight movements assumed abnormally large proportions over relatively short periods because of disturbed political conditions abroad.

The adjustments in the balance of payments, theoretically required by the strong net creditor position of the United States, came nearer to realization during the 1936–37 period of business boom than during the subsequent depression of 1937–38 largely because the decline in business activity was accompanied by a large increase in the domestic supply of agricultural products normally entering international trade in large volume and by an abnormal demand for certain export commodities which enter into armament manufacture. A drop in the domestic demand for certain imported raw materials and sharp price declines in basic commodities exerted an unfavorable effect upon total import values throughout the greater part of 1938.

The release of approximately $1,400,000,000 in gold from the inactive Treasury account in April removed an influence which had, since the end of 1936, increased the burden of the public debt but, together with later gold imports, increased the excess reserves of member banks to $3,070,000,000 by the end of the year, and thus restored a potential danger of credit inflation which it was originally proposed to remove through the sterilization program.

The structure of the export-import balance remains in many respects highly abnormal. The forces which have during recent years dominated the major movements have originated in a world politically and economically unsettled. Factors of a non-economic nature have persistently threaded their effects throughout the international payments structure with the result that their isolation and logical appraisal becomes exceedingly difficult, if not impossible.

FOREIGN TARIFFS AND COMMERCIAL POLICIES

By Henry Chalmers

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GENERAL

The incipient movement abroad toward the moderation and stabilization of tariffs and the relaxation of quotas and exchange controls observed during 1937 was largely checked during 1938. This seems to have been due chiefly to the combined influences of the renewed world economic recession which was felt in the United States from the fall of 1937 to the summer of 1938, with its depressing effect upon world prices of many commodities, as well as upon the trade and financial position of many countries, and of the spreading political tensions and apprehensions in various parts of the world during the year. However, the developments of the year were by no means uniform; they were of great diversity and in different directions.

Distinct progress was made during 1938 by a number of countries toward more liberal conditions for foreign trade exchanges, particularly on the part of many members of the British Empire in their relations with the United States. On the other hand, in a considerable number of other countries, the year saw a distinctly tightening tendency in the measures and plans of the governments for control of their foreign trade. Moreover, political motives played an unusually large part in the policy of a number of countries concerning the regulation of their imports and exports.

With the rapid upturn in American business recovery since the early summer of 1938, the influence of renewed United States demand for foreign materials and products is stimulating improved conditions also in many foreign countries, reversing the depressing effect upon other parts of the world of the recession of 1937–1938. As a consequence, the purely economic forces that operated through the middle of 1938 to check the trend toward moderation of trade controls, became less of a compelling factor during the closing months of the year. This trend was notably revived by the announcement in November of the successful conclusion of the broad trade-liberating agreement between the United States and the United Kingdom, and of the revised Canadian-American trade agreement, amplifying the scope and depth of the benefits obtained in the agreement of three years previous. These agreements tended to give an encouraging tone again to the attitude of numerous governments toward a freer international economy.

However, the political apprehensions that spread in a cumulative way as the year progressed, particularly following the Czech crisis in September, influenced the attitudes of many governments in the opposite direction. The fact that the foreign trade of some countries did not decline more sharply during the year was partly due to the continued and even increasing demands for various materials and products serving the accelerated armament programs of many countries, large and small.

The intensified efforts of Germany during the latter months of the year to tie up various countries of Southeastern Europe and of Latin America through a variety of bilateral measures aroused widespread concern lest they restrict further the trade possibilities in those areas for the nations operating on a competitive free-exchange basis and the more so because in many instances these trade arrangements seemed to have distinctly political implications. Toward the end of the year, however, there were evidences of a stiffening attitude on the part of certain of the leading free-economy countries, and announcements of a number of moves and plans designed to check any undue or unfair encroachments upon their established interests in common export markets. These moves are taking various forms, including governmentally-sponsored loans to aid financially weaker countries in acquiring desired equipment and supplies.

Despite the spread of German barter arrangements, analysis of the trade records shows that the relative recovery in the value of German exports from the depth of the depression has not been as great as that of the United States, the United Kingdom, or of a number of other countries. Moreover, even after the inclusion with the totalitarian states of those secondary countries whose trade might be regarded as predominantly controlled, over 70 per cent in value of all world commerce is found to be still carried on by countries operating on a predominantly open and competitive basis.

In connection with the developments in China, where Japanese control had been extended by force of arms, a protest was lodged in October, 1938 by the United States charging Japanese violation of the "open door policy," and discrimination in various ways against American trade and interests in the areas of China under Japanese control. The Japanese reply of November, declaring that the "ideas and principles of the past" were no longer applicable in the "new order" in Eastern Asia, was rejected by the United States at the turn of the year, on the grounds that alterations in rights enjoyed by virtue of international agreements "can rightfully be made only by orderly processes of negotiation and agreement among the parties." The governments of the United Kingdom and of France have since taken a similar stand in this matter.

TRADE BARRIER LIBERALIZATION

Outstanding among the developments during 1938 in the direction of restoring freer movement for international trade was the conclusion in November of the reciprocal trade agreement between the United Kingdom (which dealt also for the various non-self-governing British colonial areas) and the United States, and the simultaneous revision in amplified scope of the trade agreement of 1936 between Canada and the United States. The fact that Canada and the United States, after three years' experience under the operation of the first agreement for the reciprocal facilitation of imports from each other, found it desirable to renew and extend that agreement, was regarded as evidence of the mutually beneficial character of this type of trade arrangement.

The importance naturally attaching to the reciprocal reduction or stabilization of many duties on the part of the United Kingdom and of the United States, which between them constitute the markets for close to 30 per cent of total international trade, was considerably enhanced by the fact that these two leading world Powers should jointly throw their weight in favor of this method of trade accommodation on a more open and competitive basis, and one from which other countries may also benefit in so far as they can supply the particular products dealt with in the agreement. The agreement was significant also as marking the first important instance where the countries participating in the Ottawa Agreements of 1932, whereby the various parts of the British Empire undertook to give reciprocal preference to each other's products, were ready to release each other from some of those commitments in order to make it possible for each of them to enter into broader trade arrangements with non-Empire countries.

Of a similar reciprocally liberating character were the trade agreements concluded with the United States by Czecho-Slovakia in the spring, and Ecuador in the fall, and the tentative agreement with Turkey, initialed at Ankara in December, all on the general lines established in earlier United States trade agreements. General treaties or agreements, all providing for reciprocal most-favored-nation treatment, to be applied in the broadest sense to all trade relations, were entered into with the United States during the year by Venezuela, Chile, Greece, Iraq and Liberia, and a similar treaty of 1937 with Siam was brought into operation.

Also of particular interest to the United States was the removal by Australia in May of almost all the remaining import license restrictions maintained by that Government since 1936, although in some cases the abolition of the license restriction was accompanied by an increase in the import duty. This followed the removal of Australia from the list of countries which had been denied the generalization of the reductions in the United States duties under the trade agreements program. American products had been the principal ones affected by this temporary trade-diversion policy of Australia.

Although of little direct bearing upon American products, an important development toward trade liberalization was the Anglo-Irish Agreement of April, 1938 which put an end to the tariff war of several years' standing between the two countries arising from the dispute over the payment of the Irish land annuities to Britain. The special penalty duties and restrictions maintained against each other's products were substantially abolished, and Anglo-Irish trade was placed on very much the same preference basis as that between the United Kingdom and the various British Dominions.

While there were relatively few general tariff revisions on the part of foreign countries, the changes in their import duties made by different countries during 1938 on selected groups of products included an appreciable proportion of reductions, affecting notably industrial and construction materials and equipment, and in some cases foodstuffs, in the interest of lower local prices and the development of diversified industries within the legislating countries. Such duty reductions were observed especially in Mexico, Venezuela, Uruguay, Finland and Turkey, although some of the same countries imposed additional restrictions on other products during the year.

Bolivia lifted in October the import prohibitions imposed on many products in 1936 and 1937, although importations of prime necessities are still subject to prior permit, with particular scrutiny as to cost and resale price. Among the few trade easements on the continent of Europe was the removal of the import permit requirements from a successive series of products by the Danish Government, which has for some years been closely regulating imports and diverting them to countries affording the largest markets for Danish products, especially to the United Kingdom and to Germany.

TRADE RESTRICTIONS

During 1937 at least ten foreign governments reduced or waived import duties on grains and feeds, in order to facilitate larger importations of such products to make up for their temporary crop shortages, which incidentally contributed to the revived prosperity of certain agricultural exporting countries. These were practically all withdrawn during 1938. In fact, with the reversal of the crop situation in late 1937 and in 1938 to a condition of exceptionally bountiful harvests, the year was marked by a sharp reversal in trade policy. About a dozen countries either increased their import charges on wheat and other grains or feeds, or imposed permit systems on imports or requirements for the mixing of percentages of domestic grains in milling.

Furthermore, most of the important grain-exporting countries, in the effort to dispose of large surpluses in the face of shrunken foreign import requirements, resorted during 1938 to various forms of price guarantees to domestic growers, accompanied by vigorous efforts to export the surplus, with the governments making up the difference between the domestic and world prices. The meeting of the revived International Wheat Advisory Committee, scheduled for London in January, 1939, represents an attempt on the part of representatives of 22 nations to explore the possibilities of an international wheat agreement for such control of production and marketing as will restore a better world market equilibrium and profitable returns to wheat growers.

The Hague Convention of May 1937, by which the seven countries of Northwestern Europe known as the Oslo Powers attempted a beginning in collective action toward the gradual reduction and stabilization of their trade barriers, open for adherence by additional like-minded governments, was allowed to expire by joint agreement in the middle of 1938 on the grounds that "world conditions" would not permit its renewal. The contracting governments did agree to continue their general commercial cooperation under the Oslo Protocol of 1930. In December, 1938 the Netherlands, one of the leaders in the Oslo movement, amended its

Tariff Empowering Act to permit the government to use import tariffs for purposes of protection. This represents the first avowal of such a policy on behalf of the traditionally liberal Netherlands Government, although that country has been on a virtually protective basis, particularly on farm products, since the early days of the depression. No action has yet been taken under this authority.

Impelled by the further decline in the value of the franc and the generally difficult financial position, France by a series of decrees increased import duties and taxes on selected groups of commodities. Imports into a number of the French colonies were likewise restricted either by selective duty increases or quota restrictions partly to bring about closer trade relations with France. Tariff changes on various groups of products, predominantly upward, were ordered during the year also by a number of other continental countries, although on a smaller scale than by France, notably by Norway, Sweden, Belgium, the Netherlands, Switzerland, Italy, Yugoslavia, and Greece. In a number of cases additional products were put under quota or the amounts admitted under existing quotas were reduced. The Netherlands Indies increased its horizontal import surtax from one-quarter to one-half of the basic duties to become effective in January, 1939.

On the American continent, the sharpest tariff changes of the year were made by Mexico which in January first increased the duties markedly in a wide range of products and then substantially withdrew the increases in August. However, the depreciation in the exchange value of the peso in the meantime had so increased the cost of foreign products as to lead the Mexican Government to subsidize the importation of certain articles of necessity in connection with a domestic program of fixed maximum prices to consumers on a broad range of foods, textiles, etc. The subsidization of these imports of essential products was in part financed by an additional duty of 12 per cent on those export products of Mexico which had yielded substantially increased profits as a result of the depreciation of the peso.

With the fall in the export volume of their staple products and usually also in the prices obtained for them and the consequent deterioration of their general trade and financial position, Ecuador, Argentina and Uruguay enforced import or exchange licenses for individual transactions in many commodities, or from those particular countries with which their direct trade balance was "unfavorable"; Ecuador reintroduced a general system of import permits; Honduras joined those Latin American countries maintaining three-column schedules of duties, in accordance with the trade balance with individual countries; and New Zealand, at the close of the year, announced an individual license control over all import and export transactions, in the effort to rectify the sharp drop in her trade balance and currency reserves.

DEVELOPMENTS IN THE FAR EAST

The efforts of the United States and of the United Kingdom to maintain the non-discriminatory "open door" for their trade and enterprises in China have already been indicated. Largely due to the Japanese military control of the coastal areas of China, and to the restrictions they have been imposing upon the trading activities of other countries, general commerce with China is now limited and conducted only under handicaps. Such is the reported current condition, despite the introduction of a schedule of lower import duties into the Japanese-controlled northern provinces of China in January, 1938, and its extension to the central provinces in June.

Trade with Japan continues subject to close restriction, as part of the drastic state control of all phases of Japanese economic life. Various changes were made during the year in the official attitude toward the admissibility of particular products or as to the quantities of them which Japanese might purchase. These changes seem to have been largely dependent upon the relative state of Japanese supply of the materials needed in connection with the Chinese conflict and upon the amount of foreign exchange currently available from the exports of Japanese products under the linked import-export arrangement recently instituted.

THE SPREAD OF BARTER TRADE

The effort for a close balancing of imports and exports with each trading country, which has been a particular feature of the trade policies of most countries of Central and Eastern Europe, continued along much the same lines during 1938 with some intensification. Thus, Rumania, Yugoslavia and Turkey endeavored to make the importation of additional products subject to the compensatory export of particular domestic products. The Italian Government, which has been aiming at adjustment of its trade and financial relations with most countries on a balanced basis, began the formation of "combines" for the purpose of promoting exports in a particular line through the centralization of import permits for that general class of goods in the hands of the same trading houses. The Polish Government has for some time been trying to use the import requirements of the country as a means of promoting its exports through a variety of complicated devices. Recently these devices have included the offer of extra import permits, which are made more profitable by the very difficulty of obtaining them, to firms proven to have exported Polish products.

Following the expropriation of the properties of the larger oil companies in March, the Mexican Government entered into several barter arrangements, principally with Germany and Italy, providing for the shipment of Mexican crude petroleum and derivatives, to be paid for by equivalent values of European industrial products and materials.

The German annexation of Austria in March and of the Sudeten areas of Czecho-Slovakia in October was promptly followed by absorption of these territories into the German system of strictly-controlled trade and exchange relations. Both Austria and Czecho-Slovakia had gradually moderated their exchange controls and were moving toward freer international trade relations.

The visit of the German Minister of Economics to the countries of southeastern Europe and to Turkey for trade discussions, closely following the partition of Czecho-Slovakia, focused special attention upon certain efforts upon which the German Government had been engaged for a number of years. In order to minimize its dependence upon overseas sources of supply, Germany has been concluding barter deals and similar arrangements with the nearby countries, designed to take advantage of their food and raw material surpluses, and to guide the agricultural and industrial development of these countries along lines that will furnish Germany with needed supplies for current consumption and for the general German strategic program. The extension of compensation arrangements to various of the Latin American countries has been motivated primarily by the German desire to obtain certain raw materials and foodstuffs without payment in free exchange, and to push its export outlets for certain classes of products.

The methods for conducting foreign trade developed by Germany during recent years, featured by strict designation of the country of origin of imports and even of their price, by various types of barter arrangements involving a minimum use of foreign exchange, and by differential export subsidies and varying currency manipulations, are doubtless quite familiar by now. The year witnessed some intensification of these methods and considerably wider attention to them. Since it has not been the practice to make public many essential provisions of the special bilateral arrangements negotiated by Germany, Italy and other controlled-economy countries in recent years, full appraisal of the additional trade arrangements entered into by them during 1938 will be possible only after observation of the actual trade movements resulting from them. However, reliable reports from the other countries involved, thus far received, indicate that the arrangements of the year were not greatly different in character, if somewhat broader in scope, from the types of compensation arrangement that have been in operation with various countries for a number of years past.

The various "loans" or "merchandise credit" arrangements, announced as having been concluded by Germany with Poland, Turkey, and some other countries, are reported to be largely variations of the familiar arrangements of recent years whereby Germany takes substantial quantities of the natural products of the smaller countries, and undertakes to pay, not in cash or freely disposable exchange but in the form of Reichsbank credits, which may then be used only for the purchase of German products and often only of those particular types of industrial or military equipment or other products which Germany may find it convenient to supply.

In certain lines of goods, notably hardware, office appliances, machinery and vehicles, considerable complaint has been heard of severe competition in a number of markets, particularly in Latin America, from German products imported under the barter and subsidy arrangements.[1] Without minimizing the need for close study and effort on these particular situations, the fact that, according to official trade records, the recovery in the value of total German exports to all countries from the depth of the depression has not been as great as that of the United States, the United Kingdom, or of a number of other countries, suggests that on the whole only relatively moderate results have thus far attended these exceptional German methods.

Moreover, despite the frequent press notices of the spread of barter deals and similar types of restrictive trade arrangements in various parts of the world during recent years, a statistical testing of the situation on the basis of the foreign trade returns for 1937 discloses that, even with the inclusion of the trade of Japan and of all China in the same category with the totalitarian states of Germany, Italy and Russia and those secondary countries whose trade might be regarded as predominantly controlled, over 70 per cent in value of total world trade is still carried on by countries operating predominantly on an open and competitive basis.

Reports from various of the countries with which Germany and others have made these special arrangements carry frequent expressions of local dissatisfaction with the commercial results and with the pressures and uncertainties that often accompany them. The governments of a number of countries are reported to be endeavoring to avoid the building up by their nationals of an excess of sales to Germany above the value of their purchases from that country, so as to minimize the accumulation of frozen credits at the Reichsbank or of "askimarks" in the hands of their own banks, with the consequent necessity of taking German products of a type not normally desired or in quantities beyond the current consumptive needs of their countries.

The discovery that a portion of some of the products taken under these barter arrangements has afterwards been resold by Germany in third countries for free exchange, thus interfering with the other usual markets for the original producing countries, while forcing them to take the full value of shipments to Germany in German goods, frequently upon disadvantageous terms, is accentuating the reluctance to expand such barter arrangements when any other outlet can be found.

During the latter months of 1938

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[1] The concern of United States exporters over barter competition is centered mainly upon the countries of Latin America where the United States has been the supplier of about one-third of the total imports and has afforded the market for an almost equal share of their aggregate exports. The stake of the United States in the foreign trade of the countries of Southeastern Europe and of Turkey is relatively much smaller, having supplied during the past decade from 5 to 7 per cent of their total imports, and taken from 4 to 6 per cent of their aggregate exports.

there were evidences of a distinctly stiffening attitude on the part of a number of the leading countries operating on an open and competitive trade basis to check or offset undue extension of the opposite type of trade policy. Prominent among these efforts were those of the United Kingdom and the United States.

In May, 1938 the Government of the United Kingdom extended to that of Turkey a credit of about $80,000,000 for the purchase of capital goods and military supplies. In December a bill was introduced into the British Parliament authorizing the Export Credits Guarantee Department to expand both the scale and variety of its operations. The bill increases the total guarantees that may be outstanding at any time from about $250,000,000 to $375,000,000 and allows reexports as well as domestic goods to be covered. An initial fund of about $50,000,000 is proposed to be placed at the disposal of the Board of Trade to facilitate export transactions that are considered "in the national interest." The British Parliament and press have also been discussing plans whereby British exporting industries are to organize themselves to act as units in meeting unfair competition in common markets, with an indication that certain British industries have already been organized to present a more united and effective front to such competition.

Through the Export-Import Bank, the United States recently extended a credit of $25,000,000 to China for the purchase of automotive and other equipment, and a loan of $10,000,000 to a large American utility firm to support its operations in Latin America with an additional amount advanced for this purpose by commercial banks. Negotiations are understood to have been completed for a credit of $6,000,000 to Poland to finance the purchase of American cotton and copper on relatively long terms of payment. The Export-Import Bank has also been aided in the thawing of frozen credits due to American firms for goods sold in an important Latin American country and has indicated its readiness to consider financial aid to facilitate equipment for productive enterprises in the other American countries. Plans are under consideration for technical as well as financial assistance for the development, on a satisfactory commercial scale, of non-competitive natural products of those areas that could be used by industries or consumers in the United States.

While competition from barter trading methods continued to give particular concern in many Latin American markets during 1938, more promising recent commercial experiences were reported to be encouraging United States exporters in various lines to closer study of the situation and greater trade promotive efforts in these countries. Such official trade figures as are available for 1938 show that, in general, the United States is maintaining its important position in most of the major markets of Latin America.

The unanimous reassertion by all the American republics at the Lima Conference of December, 1938 of their preference for trading on a more open and competitive basis, and the common resolution to work toward greater reliance upon "reasonable tariffs" rather than upon the various other forms of trade control, also improve the prospect.

LIFE INSURANCE

By Wendell M. Strong

Associate Actuary, Mutual Life Insurance Company of New York

GENERAL

The year 1938 to some extent reversed the tendency of the immediately preceding years. The business recession beginning in the summer of 1937 which continued in 1938 showed its full effect in 1938 notwithstanding the recovery in the latter part of the year. New insurance issued decreased materially but nevertheless there was some increase in the total insurance in force. Assets have increased. Conditions in regard to investments have been increasingly adverse.

At the end of the year information in regard to life insurance was being called for in the so-called "monopoly" investigation. What form this investigation will eventually take as regards life insurance is not yet known.

An important event of the year was a statute in New York limiting the interest rate on policy loans, as a result of which practically all companies, in policies issued beginning with January 1, 1939, will, both in New York and elsewhere, provide for policy loans at a five per cent interest rate instead of the six per cent rate which prevailed in policies issued for many years.

ASSETS

The assets each year since 1933 have shown a substantial increase over those of the preceding year. In 1938 the increase was about five per cent. A condition that has contributed to this increase in recent years is that of the low interest rates available on investments. As a result, annuities and single premium policies have been more attractive and large amounts have been paid to the companies for these forms of contract. In addition, the Modes of Settlement available in the policies have been taken advantage of to a larger extent by beneficiaries than would happen if better interest rates could be realized on investments. The combination of these has tended to increase the assets of the companies beyond normal growth and has increased their investment difficulties.

NEW BUSINESS AND INSURANCE IN FORCE

The year 1937 showed a small increase over the year 1936 in total insurance issued. This increase was distributed very unevenly; ordinary insurance showed a moderate increase and industrial insurance, on the contrary, a small decrease, while group insurance showed an increase of one-third, the total result being an increase of approximately five per cent. In 1938 the results for the first 11 months as compared with the first 11 months of 1937 showed a decrease of 20 per cent. The 12 months, when figures are available, will also show a considerable decrease but probably not as great a percentage as at the end of the 11 months, for the reason that December, 1938 was an exceptional month in the amount of insurance written. The reason for this was the change in policy forms (explained later) to take place at the end of the year and the desire to obtain the old form. The cause of the decrease in the amount of insurance issued in 1938 was undoubtedly the recession which began in the latter part of 1937.

There was apparently an increase in the amount of insurance in force at the end of 1938 over the amount in force at the end of 1937, thus establishing a new high record. The increase for 1938, however, will probably be much less than for the two preceding years, due both to a lesser amount of insurance issued and a probable increase in lapses and surrenders.

INVESTMENTS

While the years 1937 and 1938 were opposites in one respect, namely, in 1937 prosperity followed by depression and in 1938 depression followed by some improvement, the description of the investment situation of the life insurance companies in THE AMERICAN YEAR BOOK for 1937 applies almost exactly to the year 1938. This investment situation contains the most serious problem at present confronting the companies. The increase in assets, together with the funds derived from maturing investments and from the calling of bonds bearing good rates of interest for the purpose of refinancing at the current low rates, have resulted in abnormally large amounts of insurance funds seeking investment. In the absence of attractive investments returning a good rate, these funds have necessarily been invested mostly at comparatively low rates and with very large purchases of United States Government bonds the return on which is exceedingly low.

There has been a considerable change in the proportions of the different kinds of investments in the last few years. If we take the beginning of 1933 as a starting point we find such changes as the following: mortgages as a whole have decreased considerably in absolute amount and very greatly as a percentage of total assets. Bonds have increased greatly both in total amount held and in percentage of total assets, being at the end of 1937 more than one-half of the total assets. A good part of this was due to the increase in holdings of government bonds of all kinds, and particularly in United States Government bonds. Another type of bond in which holdings greatly increased, although constituting a much less proportion of the assets, was that

NEW INSURANCE

(Association of Life Insurance Presidents)
(40 companies having 82% of insurance in force in all U. S. Companies on Dec. 31, 1937)
(Dollars in millions. First 11 months of each year)

	1936	1937	Per Cent Increase	1938	Per Cent Increase
Ordinary Insurance	$4,863.	$5,128.	5.5%	$4,210.	−17.9%
Industrial Insurance	2,479.	2,426.	−2.1%	1,953.	−19.5%
Group Insurance	504.	674.	33.6%	385.	−42.8%
Total Insurance	$7,846.	$8,228.	4.9%	$6,548.	−20.4%

Note: This table is only for the purpose of showing the tendency, so far as it is known, in 1938. It corresponds only roughly with results for all insurance in all companies in previous completed years.

AMOUNT OF INSURANCE—ASSETS—INCOME—DISBURSEMENTS

(Including Ordinary, Industrial, and Group Business)
(*Insurance Year Book*. Dollars in millions)
All United States Companies

Year	Number of Companies	New Business	Amount in Force (End of Year)	Admitted Assets (End of Year)	Surplus* (End of Year)	Total Income	Total Disbursements
1937	308	$14,796	$109,572	$26,249	$1,945	$5,257	$3,610
1936	315	14,335	104,667	24,874	2,009	5,180	3,518
1935	340	14,139	100,730	23,216	1,768	5,072	3,593
1934	313	14,280	98,542	21,844	1,823	4,786	3,662
1933	318	13,787	97,985	20,896	1,827	4,622	3,917
1932	328	14,514	100,154	20,754	1,944	4,653	3,998

*Includes amount set apart for dividends to policyholders during following year.

ORDINARY INSURANCE

	1937	1936	1935	1934	1933
Number of companies	242	250	275	248	252
Amount terminated by death	$708	$707	$675	$685	$698
Amount terminated by surrender and lapse	3,758	4,046	5,094	6,138	8,211
Total amount terminated	5,659	6,106	7,426	8,868	11,420

of public utilities. Railroad bonds remained about level in total amount, but decreased as a percentage of the total assets.

Policy loans have decreased. Real estate, which consists of office buildings and property acquired by foreclosure, while still under eight per cent of total assets, has shown a large increase in percentage because of foreclosures. The tendency of real estate to increase by foreclosures has been very greatly checked, so that in the last two years the ratio of real estate to total assets has decreased although there is a slight increase in absolute amount.

Special mention should be made of the following: (a) The unfortunate railroad situation which has continued through 1938 with a number of defaults. There has been some consequent loss to the companies having investments in railroad bonds. Many of the investments in railroad bonds were made years ago when such bonds seemed a most conservative and safe type of investment. (b) The enormous increase in the holdings of Federal bonds, the amount being more than five times as great as at the end of 1933. (c) The great increase in cash, the increase in a decade having been from approximately $100,000,000 to between $700,000,000 and $800,000,000. While even this latter amount is very small as a percentage of total assets, the fact that the absolute amount should be so large emphasizes the difficulty of finding suitable investments.

POLICY LOANS

With the low rate of interest prevailing in recent years, there has been much agitation for lower rates for policy loans than the six per cent provided for in the policies of practically all companies. This resulted in the passage in New York State of a statute requiring policies issued in that State after Jan. 1, 1939 to provide for an interest rate not exceeding 4.8 per cent in advance. Since this was slightly over five per cent at the end of the year most companies have adopted a five per cent interest rate in their contracts, such change in policy contracts to apply not only to policies issued in New York State but also to policies issued elsewhere.

In general, the companies will not extend this lower interest rate to loans on policies with a provision for a six per cent interest rate. An explanation of the reason why companies believe six per cent is not too high is given in THE AMERICAN YEAR BOOK for 1937.

Eventually the result of the lower interest rate for policy loans will be to lower perceptibly the return to the companies from such loans and thus make the dividends smaller than they would otherwise be. This effect, however, will not materialize for a considerable number of years, since policy loans cannot be made until two, and in many companies three, years' premiums have been paid, and the loan value in the early years is small. In consequence, for a long time, unless the companies modify

SURRENDERS AND LOANS

(New York Insurance Report)

(Companies Reporting to the State of New York. Dollars in millions)

Year	Number of Companies	Amount in force (End of Year)	Amount of Policies Surrendered*	Amount of Policies Lapsed*	Paid for Surrendered Policies	Policy Loans (End of Year)
1937	57	$74,814	$1,241	$1,430	$ 578	$2,855
1936	56	71,620	1,447	1,443	622	2,869
1935	51	69,350	1,966	1,740	772	2,989
1934	53	68,135	2,624	1,896	924	3,096
1933	53	68,177	3,624	2,551	1,177	3,191
1932	53	71,478	3,556	3,292	1,137	3,188

*Includes group insurance but not industrial.

the interest rate provided for in existing policies, the bulk of policy loans will be on the six per cent basis, the transition being gradual.

The year 1937 showed a slight decrease in the total of policy loans, thus continuing, but with reduced intensity, the tendency of the preceding four years to a reduction in the total amount of policy loans. In the year 1938 there was a small increase.

SAVINGS BANK LIFE INSURANCE IN NEW YORK STATE

Legislation in New York State in 1938 included a statute providing for savings bank life insurance. The pioneer in this was Massachusetts, which many years ago established such insurance, the establishment being closely connected with the name of Justice Louis D. Brandeis, now of the Supreme Court of the United States.

The legislation in New York for savings bank insurance provides that, while the Insurance Department of New York State will give certain assistance, much of the expense of this is ultimately to be borne by the banks issuing such insurance. The amount will be limited to $1,000 in any one bank, and $3,000 total on one life. While Massachusetts limits the amount to $1,000 in any one bank, this amount may be taken with each bank, over 20 in number, issuing savings bank life insurance, so that the total amount obtainable on any one life in Massachusetts is large. Banks undertaking this insurance will pool the mortality under their policies, something quite essential since the number insured in each bank will necessarily be small at the start with the result that accidental fluctuations in mortality would be great for the individual bank. No agents or solicitors are to be employed. Whether an individual bank should issue this life insurance is a matter for the decision of that bank. At the beginning of 1939 only three banks have set up insurance departments but more will probably do so.

REVISION OF THE NEW YORK INSURANCE LAW

Such a revision was undertaken in 1937 by a legislative committee then appointed and still functioning. It was understood in the first proposal that the revision should be a codification and rearrangement of the existing law. Instead of that, it has taken the form of an almost entire rewriting of the New York statutes with many fundamental changes, some of which are radical in their nature. The year 1938 has been taken up with proposed changes in the bill as drafted and hearings thereon, and it is expected that the revision will be introduced as a bill in the 1939 Legislature. There are many provisions in this revision which the companies regard as unfortunate but which they have not been able to have eliminated.

ANNUITIES

The general improvement in mortality that has taken place and the decline in the interest rate realized on new investments have led to several increases in recent years in the annuity premiums charged by the companies. In 1937 a committee of actuaries was formed to consider the matter of mortality as applying to annuities and to the annuity Mode of Settlement. The result was that a new annuity mortality table was constructed, such table indicating a lower mortality than any previous annuity table, and causing the companies to conclude that, even with the increases previously made, annuity premiums were too low. As a result, about July, 1938 the annuity premiums of nearly all companies were substantially increased.

MODES OF SETTLEMENT

As a result of a decline in the interest rate on investments and also the lower mortality shown in the new annuity mortality table, it has been felt recently that the optional Modes of Settlement by which proceeds are to be settled either on the election of the insured before the policy matures or on the election of the beneficiary at maturity, as contained in policy forms heretofore issued, were too liberal for the changed conditions, and that a change in the guarantees under these settlements should be made. This could only be done by a company by adopting new policy forms. A revision of policy forms, to go into use at the beginning of 1939, was necessitated by the already mentioned requirement in New York of a lower policy loan interest rate, and the changes in the options of settlement were made at the same time.

One of these optional Modes of Settlement is a provision for the proceeds of the policy to remain with the company at a guaranteed rate of interest. Heretofore, such guaranteed rate has been three per cent, or in the case of some companies somewhat more. In the change, it was felt by most companies that a guarantee of three per cent was too high, and many of these companies adopted a new guaranteed rate of two and one-half per cent. Since the contracts give participation in excess interest above the rate guaranteed, the result would be practically the same as under the previous Modes of Settlement, if the interest rate is at least three per cent.

In the Mode of Settlement providing for an income to the beneficiary for life (really an annuity) the new mortality table has been adopted by a large proportion of the companies as the mortality basis, the result being a somewhat lower guaranteed income for amounts settled under this Mode of Settlement.

DIVIDENDS

The dividends of 1938 did not differ greatly from those of the previous year. For 1939 there will be a number of decreases with comparatively few increases and with most companies maintaining the 1938 scale.

PAYMENTS TO POLICYHOLDERS—INTEREST RATE

(Including Ordinary, Industrial, and Group Business)

(*Insurance Year Book.* Dollars in Millions)

	All United States Companies:						100 Companies
Year	Number of Companies	Premiums Received	Dividends Paid	Death Losses Paid	Surrenders and Lapses	Total Payments to Policyholders	Rate of Interest on Mean Invested funds
1937	308	$3,762	$435	$937	$669	$2,437	4.47%
1936	315	3,683	418	919	713	2,429	4.49%
1935	340	3,692	424	877	883	2,535	4.47%
1934	313	3,521	438	875	1,078	2,705	4.68%
1933	318	3,322	499	877	1,357	3,016	4.75%
1932	328	3,504	563	905	1,346	3,087	5.08%

MORTALITY AND DISABILITY

Apparently the favorable mortality of the two preceding years continued through 1938. The adverse disability experience also continued, but possibly with some slight improvement.

GROUP INSURANCE

It is noticeable that in the first 11 months of 1938 the insurance written was less than two-thirds of that of the previous year, the percentage of decrease being more than double that of ordinary and industrial insurance.

INDUSTRIAL INSURANCE

While the amount of industrial insurance issued decreased sharply from the year before, the total amount in force increased substantially. Two changes in the statutes of New York State affect very materially this kind of insurance.

The first excludes endowments from industrial insurance. While this applies to New York State only, it has an indirect effect, so that industrial companies doing business in New York State, even though corporations of other States, will probably find it impracticable to issue industrial endowments anywhere. The endowment has heretofore been a popular form of industrial insurance.

The second limits the amount of insurance on children under the age of ten years to $400, whereas heretofore an amount graded with the age was permissible, running up to $900 at age nine. This limitation applies to New York State business only.

INDUSTRIAL INSURANCE

(All U. S. Industrial Companies)

(*Insurance Year Book.* Dollars in millions)

Year	Number of Companies	Number of Policies (in millions)	New Business	Amount in Force (End of Year)	Amount Terminated by Death	Amount Terminated by Surrender and Lapse	Total Amount Terminated
1937	66	89	$4,784	$20,591	$168	$2,944	$3,624
1936	65	87	4,854	19,464	160	3,040	3,689
1935	65	84	4,722	18,298	154	3,479	4,086
1934	65	83	4,885	17,651	154	4,111	4,428
1933	66	82	4,673	17,154	149	4,515	4,797
1932	68	83	4,793	17,265	154	5,450	5,811

FRATERNAL INSURANCE

In 1937 this reversed the downward trend in amount in force which had continued from 1931. The insurance issued in 1937 was larger than for any prior year back to 1931 and nearly as large in amount as in 1931. The amount in force also showed a moderate increase.

FRATERNAL INSURANCE

(All U. S. Fraternal Orders Showing Figures)

(*Insurance Year Book.* Dollars in Millions)

Year	Number of Orders	New Business	Amount in Force (End of Year)	Assets (End of Year)	Total Income	Total Disbursements	Net Amount Received from Members	Paid for Claims
1937	255	$666	$6,333	$1,098	$224	$166	$159	$117
1936	249	586	6,164	1,039	212	167	150	116
1935	266	563	6,183	994	205	159	152	111
1934	262	524	6,300	961	198	157	150	115
1933	206	502	6,395	906	193	156	152	111
1932	226	600	7,123	882	212	167	164	117

FIRE INSURANCE

By Edward R. Hardy

Secretary-Treasurer, Insurance Institute of America, Inc.

FIRE LOSS

The expression "fire loss" means the value, as closely as it can be estimated, in dollars and cents of the property destroyed by fire. The loss which the insurance companies pay usually bears a certain relation to the fire loss, but the latter term is one of special significance because of its comprehensive nature. Many forms of property are not yet insurable under any known system and, until they are, there always will be a substantial difference between the fire loss and the amount of that loss paid by the fire insurance companies.

The trend of this fire loss is shown by the statistics of the National Board of Fire Underwriters which is the accepted authority for the compilation of this information. In the year 1936 the fire loss, using round numbers, was $293,000,000; in 1937, $284,000,000; and in 1938, $302,000,000. It is evident from a glance at these statistics for the three years that there has been a substantial increase in 1938 as compared with 1937 and even as compared with 1936. The statistics for 1938, while showing the results in gross, as set forth, do show that fairly steadily for each month of the year there was an increase of approximately 10% over the previous year; that has been true at least for the last six months of the year.

It has been the practice for many years to make a rough division of the losses by fire; that is, to list and tabulate those where the loss is estimated at $10,000 or more separately from those where the loss is estimated at less than that figure. The first group takes in about 60% of the total and the other 40% is divided among all the losses the amount of which is less than $10,000.

Where the fire loss runs uniformly as compared with past years, the problem can be met, but where there is an unusual loss, such as a conflagration, it becomes a problem of another kind and a more difficult one. There have been since 1906, when the famous fire occurred at San Francisco, numerous small fires which were conflagrations for the places where they occurred but were not conflagrations of national importance. These are taken care of in the normal run of the business of fire insurance. There is a feeling that without any serious conflagration over a period of 32 years, close watch is necessary because the record of the United States shows a large conflagration at infrequent intervals. This long immunity develops a feeling that one is near, if not due. The hurricane of Sept. 21 produced conditions, so far as height of the water and property damage was concerned, not equalled since 1815, and it is proof of the fact that untoward things do happen and conflagrations may be considered as among these untoward things.

In compiling the statistics for the fires which were in the loss group of $10,000 or over, the following geographical divisions are made: East, South, West, Pacific Coast, Canada. The largest number of fires are in the West, which means the Middle West, not including the Pacific Coast, and the next largest in the East. Naturally, fires of that magnitude would be suffered only where the values were substantial.

PREMIUMS

The best estimate of the total premiums received by the fire insurance companies in 1938, including all lines, is slightly in excess of $1,000,000,000, approximately the same amount as for the previous year. Some breakdown of these premiums is desirable because the companies organized for the writing of fire insurance are empowered under their charters or articles of incorporation to write other forms of insurance. These are generally known as "accessory lines" and include: motor vehicle, ocean marine, tornado, inland navigation, aircraft, earthquake, sprinkler leakage, hail, riot, civil commotion and explosion, rain and flood, water damage, frost and freezing. More than half of the premiums received from accessory lines are from insurance on motor vehicles and this does not include that form of automobile insurance which is written by the casualty companies, that is, the legal liability, a form of insurance which a fire insurance company may not write. The magnitude of the premiums received from accessory lines may be realized when it is stated that they amount to about $400,000,000 a year for all forms of carriers. This is sufficient to point out how the develpoment of these lines other than fire has added to the volume of business transacted by companies organized primarily for the writing of fire insurance.

RATES

The rate for fire insurance means the amount charged for each $100 of liability assumed, and in a business of the magnitude of the fire insurance business even a slight variation in the rate up or down will have a perceptible effect on the premiums. Due to the phenomenally low loss records of the past five, almost ten, years, there has been but one tendency in the rate and that downward. In some States the rates are based on the previous five years' experience and, if the loss ratio is less than the formula adopted for determining the permissible loss ratio for the rate charged, there must be a reduction in rate on policies issued for the next year. This method applies in two or three States of the United States, but in most of the States there is more of a tendency to take the rates up class by class and to make adjustments based on the best obtainable data. New York is perhaps an outstanding State where this method is followed and it seems to have worked satisfactorily there. Whatever the method, it should be noted that the average rate for fire insurance in the United States is steadily decreasing. If there should be, however, an increase in the fire loss, as there was in the past year, that tendency will be checked. The best thought is that the low loss ratios of the past ten years have reached a turning point and from 1938 on higher loss ratios may be anticipated. It is a case where the French proverb, "The wheel comes round," applies.

EXTENDED COVERAGE ENDORSEMENT
(Supplemental Contract)

Some of the accessory lines of insurance written by the fire companies were well developed in different parts of the country. Outstanding examples are the windstorm, cyclone, tornado and hail endorsements which for some years have been written freely in the Middle West, owing almost entirely to the fact that such storms were of frequent occurrence in that part of the country. When the tendency to reduce rates was noted, the idea was developed that, if several of these accessory lines could be brought into one cover instead of continuing to issue separate policies for each, it would be of benefit to the business of fire insurance and to the policyholder. This coverage has now been developed to include windstorm, cyclone, tornado and hail, explosion, riot, riot attending a strike, aircraft, smoke and vehicles; in other words, eight forms of coverage are now available on a single piece of paper and with charges adjusted to the type of property to be covered and the different parts of the country.

In a tentative way this form originated about four years ago and has been slowly developed. The hurricane of Sept. 21, 1938 has been bringing the first experience under this endorsement. The central body handling risks of this kind has received 25,000 notices of loss. Except for the number, these have not been tabulated and probably, when the final tabulation is made, the number will be somewhat less because undoubtedly duplicate claims have been filed. That, however, is not important and is readily adjusted. The real value of this coverage is that the property already being protected against fire may have, for what is a nominal charge, this additional coverage and with the least machinery possible to effect the coverage.

STANDARD FIRE POLICY

In 1866 the State of Connecticut adopted or suggested the adoption of a standard policy of fire insurance. Wherever this phrase is used, it means nothing more nor less than, if the State has adopted a standard policy, all business in that State must be written under that form. The Connecticut policy was not accepted, and the real beginning was in Massachusetts in 1873, followed by the

State of New York on May 1, 1887. This New York policy became the policy more commonly in use throughout the United States, but no one standard policy was ever adopted by the whole country. There are some six standard policies in existence now, some, like the Massachusetts form, applying to only one State and others used widely throughout the country. The policy adopted by New York State continued until Jan. 1, 1918 when the present one was adopted. It was anticipated that this would be adopted for the whole country but such was not proved to be the fact. About 40% of the business is written under this form, but the older New York form continues in force and about 40% of the business is written under that policy. For three years there has been a steady push for a change in the standard policy of New York State. (This policy, by the way, was adopted by the commissioners and is commonly known as the "Commissioners' Policy"; this fact, however, did not automatically put it into use in any State; it has had to be adopted officially by the State.) A great deal of work has been done on the revision and at the meeting of the Superintendents and Commissioners of Insurance, to be held in June, 1939, the subject is expected to come up and be brought to a conclusion. It has been suggested, and this is probably wise, that another policy should not be adopted unless three-fourths of the States agree to adopt it. The feeling is that to adopt another policy for only a few States would make for confusion and would bring no real benefit to the insured or the insurer.

INVESTMENT RETURN

The business of fire insurance is affected to a limited extent by the return from investment. It is not, of course, in the same position as the life insurance companies with their long-term contracts. But if the average return from investments drops from, say, 5% of a few years ago to 3% or less, it is evident that, in so far as the investment return does affect the rate of insurance, its effect in the future will be less because of the very modest return now being received for capital.

THE 1939 OUTLOOK

The real development in 1939 for fire insurance will be a more extensive use of the extended coverage endorsement and a lessened use of individual forms of underwriting. In one territory the amount received in 1938 in premiums from the extended coverage endorsement was double that received in 1937. And, one of the best advertisements this coverage has received was the hurricane of Sept. 21, 1938.

MARINE INSURANCE

By Douglas F. Cox

Appleton & Cox, Inc., New York

PREMIUMS WRITTEN AND LOSSES PAID

At the time when these reviews are written each year, the figures for the year have not been published. In 1937 the figures of 1936 were discussed; in 1938, latest figures available for definite discussion were those of 1937. In 1937, the forecast of the then indefinite results of 1937 was that the volume in both classes, ocean and inland, would prove to be greater than in 1936, but that the loss ratio on ocean premiums in 1937 would be higher. That forecast is fairly well borne out by the definite figures since published. The total ocean premium for the stock companies was $37,917,000, an increase of about 10.5% over the corresponding figure for 1936 which was $34,299,000. The loss ratio for 1937 on ocean premiums was 58.23% which is higher than the figure for 1936, 56.65%. The loss of the steamer *President Hoover* occurred in 1937 but it was in December and the claim was not paid until 1938, otherwise the loss ratio for 1937 would have been considerably higher.

The English Shipping magazine, *Fairplay,* commenting upon the experience in 1937, stated that the underwriters suffered in that year from "not merely a wave, but an avalanche of total losses, which seemed to come without rhyme or reason from every quarter."

The volume of premium in the inland class increased, as compared with 1936, by a still larger percentage—over 17%, the amounts being $44,671,000 in 1937 and $38,069,000 in 1936. The loss ratio was unusually low—37.88%.

THE 1938 SITUATION

Although the volume of ocean premiums in 1937 was far short of the peak in recent years (1929—$482,550,000) it seems probable that the figure for 1938, when available, will be less than for 1937. The activity in world trade was considerably less, which means less premium for the marine underwriters; shipowners were quite encouraged by developments in 1937, but in 1938 an atmosphere of gloom seemed to be again prevalent in shipowning circles. Better rates and values prevailed in the insurance of hulls but it does not seem possible that this can offset the effect of the reduction in shipping activity.

In addition to minor casualties more numerous than usual, there have been a number of total losses of large vessels, some of them of excellent ownership, the highest value being the French liner *Lafayette* which was destroyed by fire while in the hands of repairers, about $3,500,000. The burden of many of these large losses fell on the foreign insurance markets but on our side we had the hurricane of Sept. 21 to deal with, which was very costly, although to some extent the burden was lightened by recoveries from foreign reinsurers. Altogether, it would seem probable that the loss ratio will prove to be higher than in 1937.

Upon first consideration it would appear that the volume of inland premium should also be less in 1938, as the subjects of insurance under several important types of inland floater policies are articles of luxury, such as jewelry and furs, which are not so much in evidence in times of general business depression, but the fact must not be overlooked that this is a class of insurance which is comparatively new to the great mass of agents throughout the country outside of the large centers. Those producers are becoming more and more interested in the various forms of inland policies and they are finding that they can sell these policies in many cases where no insurance has hitherto been carried. The vast number of agents working along those lines produce in the aggregate surprising results; for instance, the volume in 1937 was 59% more than in 1933, which was the lowest, and was within about 4% of the peak in 1930. With these facts before us it would be rash to prophesy that the volume in 1938 will not prove to be as much as or even more than in 1937.

THE HURRICANE

The most interesting loss of the year was the West Indian hurricane, the center of which, instead of curving to the East, came ashore between New York and Cape Cod and passed north, causing enormous loss of life and damages to property all the way to Canada. Some damage was done to ocean-going vessels before it struck the shore, but the bulk of the loss falling upon marine insurance arose from the wholesale destruction of comparatively small craft along the coast and in harbors. Literally hundreds of yachts were destroyed or badly damaged. The ordinary precautions against damage by storms, such as strong moorings in protected waters, were of no avail whatever in this case. If not sunk at their moorings they were torn away, carried inland, piled up on each other and left in all kinds of extraordinary positions. The yachting season being practically over, many vessels had been hauled out as usual and made safe against ordinary winter storms, under cover and otherwise, but the very high water, driven by the excessively strong wind and generally spoken of loosely as tidal waves, made such protection absolutely unavailing. Whole fleets of local fishing boats were completely wiped out and local commercial vessels of all kinds were extensively damaged. Extensive damage was also done to merchandise on piers which collapsed or were washed away. There had been no such occurrence in this part of the country within the memory of anyone now living; the coast where the hurricane struck is so thickly settled that the results were particularly disastrous.

WAR RISKS

It was also in September that marine underwriters were much perturbed by the imminent menace of war. Throughout the last two or three years they have been endeavoring to put their affairs in order and be ready to meet the situation so far as possible, if and when another general European war should break out, but in September they found themselves confronted by what seemed to be an immediate and unavoidable outbreak. Originally, marine policies covered the war perils as a matter of course, as is shown by the wording of the ancient "Lloyd's form," for violence of one kind or another on the high seas was quite the usual thing; the policy, however, did not cover merchandise except while waterborne. After the Napoleonic wars a clause was quite universally added making the policy free of claims for loss arising from such causes, thus, when war actually threatened vessel owners and cargo shippers were obliged to approach their underwriters and arrange for protection, paying whatever additional premium might be necessary. Along with this development, the practice grew up of extending the insurance, which formerly covered only while waterborne, so that it covered for considerable periods before shipment and after discharge from the vessel.

After the close of the World War, the very evil practice was begun of adding to the usual continuous contract policies covering all shipments to be made by a shipper or importations by an importer, a clause adding war perils to the risks against which the policy afforded protection. As the policy had come to be extended to cover on shore against the usual perils, the underwriters by this latest development put themselves in the very unpleasant position of covering merchandise on shore against war perils. Little or no premium was charged for this addition as the underwriters apparently thought there would be no more war. In these days of aerial bombing, the position of merchandise at a sea-port, on piers or in warehouses, is so very hazardous that no underwriter is willing to insure it against such risks, therefore it was necessary to re-arrange the terms. Underwriters were ready and willing to accommodate their merchant friends so far as possible without endangering the assets of their Companies, but the merchants having become accustomed to the broader cover, found it difficult to adjust themselves to a "water-borne only" cover. By diligent effort, however, this had practically been arranged before the crisis in September but the question still remained as to what rates should be paid and how much liability each underwriter could reasonably assume on each vessel. The rates did not rise to anything like the levels which must prevail when actual war between naval powers has broken out, but if it had broken out in September, 1938, many ships which were at sea and covered by insurance at low rates would have been captured or destroyed and the losses to underwriters would have been very heavy.

CASUALTY AND MISCELLANEOUS INSURANCE

By G. F. Michelbacher

Vice-President, Great American Indemnity Company

EXPERIENCE FOR 1937

A definite starting point for this review is the actual experience for 1937 compiled as of Dec. 31, 1937 and reported to the New York Insurance Department in the "Casualty Experience Exhibit" early in 1938. This is the largest and most authentic compilation of national experience and, although it covers only the operations of stock insurance carriers licensed in New York State, it is, nevertheless, representative because these carriers transact from 65% to 75% of the total business of casualty insurance and corporate suretyship in the United States. The following table gives a summary of the combined Casualty Experience Exhibits for 1937 of 64 stock insurance carriers.

CASUALTY EXPERIENCE EXHIBIT

(For the Year Ended Dec. 31, 1937)

Line of Coverage	Earned Premiums	Incurred Losses Excluding Claim Expenses	Incurred Expenses Including Claim Expenses	Underwriting Profit (+) or Loss (−)
Accident	$ 34,443,899	$ 13,142,392	$ 18,156,839	+$ 3,144,668
Health	18,931,923	12,885,477	6,546,192	− 499,746
Automobile public liability	170,289,848	80,953,235	80,719,258	+ 8,617,355
Automobile property damage liability	47,024,622	19,377,120	24,384,720	+ 3,262,782
Automobile collision	2,950,410	1,547,709	1,454,756	− 58,055
Public liability — other than automobile	70,480,868	24,790,266	40,591,809	+ 5,098,793
Property damage liability and collision—other than automobile	3,907,358	1,012,515	1,953,036	+ 941,807
Workmen's compensation	139,644,570	74,023,992	56,621,653	+ 8,998,925
Fidelity	37,279,791	7,945,802	20,816,487	+ 8,517,502
Surety	39,742,296	6,685,605	24,811,820	+ 8,244,871
Plate glass	9,097,920	4,167,623	5,428,855	− 498,558
Burglary and robbery	24,606,815	6,002,392	13,583,760	+ 5,020,663
Boiler	7,239,974	813,322	6,966,816	− 540,164
Machinery	3,466,013	893,645	2,768,117	− 195,749
Credit	723,491	149,230	388,865	+ 185,396
Sprinkler leakage	616,840	224,673	373,028	+ 19,139
Miscellaneous	282,603	137,732	147,250	+ 2,379
Total	$610,729,241	$254,752,730	$305,713,261	+$50,263,250

The corresponding record for 1938, when it becomes available, should show a material reduction in premium volume for lines where premiums are based upon variable units of exposure such as payroll, earnings, gate receipts, sales, etc. It is likely, however, that the underwriting results for the year will not be far different, percentage-wise, than they were in 1937; because of a lower volume of business, the aggregate underwriting profit will necessarily be less in amount.

This will be true notwithstanding the severe windstorm which wreaked havoc in many of the States along the Atlantic seaboard, for this storm created very few losses for indemnity carriers. These scattering losses affected workmen's compensation insurance, personal accident insurance, plate glass insurance and, in a lesser degree, miscellaneous public liability and property damage liability insurance.

AUTOMOBILE INSURANCE

An important development in this field has been the introduction by conference stock insurance carriers of the "Safe Driver Reward Plan," under which owners of private pleasure vehicles are offered a 15% reward if they complete a policy year without producing an accident involving property damage or bodily injury. The reward is payable 30 days after expiration of the policy, and it is estimated that 88% of all policyholders will be eligible to receive it. That a difference of opinion exists with regard to the efficiency and practicability of the plan is attested by the lukewarm attitude of many agents and brokers and by the fact that the plan is not effective in all States, several insurance commissioners having refused to approve its use in their jurisdictions. It is, however, a step in the direction of recognizing variations in hazard among private pleasure automobile risks and, as such, it is a much needed device. Failure to differentiate between risks of this class has created a serious competitive disability for conference insurance carriers.

The plan may not be perfect, but it registers the determination of conference carrier executives to solve this problem and, therefore, is a welcome innovation. If the Safe Driver Reward Plan is not the ultimate solution, it is safe to predict that some plan introducing the principle of merit rating will gradually evolve; otherwise, conference carriers are doomed to an ever-expanding adverse selection of risks which eventually would seriously embarrass them.

Fortunately, while the Safe Driver Reward Plan experiment has been in progress, the automobile accident situation has shown marked improvement. Motor vehicle fatalities throughout the country are 21% below the same period for last year. If the present trend continues, the fatality record for 1938 will show some 8,000 fewer fatalities than the high record of 39,500 established during 1937. The year 1938, on this basis, will produce the lowest automobile accident record since 1929.

Agitation continues for a change in the law governing the rights and responsibilities of those involved in motor vehicle accidents. So far only one State—Massachusetts—has adopted legislation compelling all automobile owners to purchase insurance or otherwise to demonstrate their financial responsibility. This law does not, however, change the law of negligence as it applies to automobile accidents. In some other States insurance is optional except for those who have been guilty of certain bad practices or have failed to satisfy a judgment for an automobile claim. This type of legislation—Financial Responsibility Law—is the prevailing method of dealing with the irresponsible automobile owner. Other programs, still in the discussion stage, involve the substitution of the principle of compensation, irrespective of fault, for that of negligence in the adjudication of automobile claims, the establishment of state automobile insurance funds, and a variety of modifications of existing laws designed to facilitate, to render certain, and to expedite recovery for loss sustained by claimants. There are so many cross currents now in motion that no one can predict what legal system the future will bring forth.

WORKMEN'S COMPENSATION INSURANCE

The business recession which swept the country in 1938 has left its impression on the workmen's compensation insurance business. Unemployment, reduced hours of employment, and falling wage scales inevitably depress premium income, for payroll is the basis of premium computation. Expenses cannot be reduced proportionably because it becomes more important than ever to inspect, audit, and underwrite individual risks in order to maintain conservative standards. Losses are likely to increase proportionately as malingering and other evils arise to plague employers and insurance carriers. Under these conditions, the margin of underwriting profit narrows, if it does not entirely disappear.

Workmen's compensation insurance probably will show a small underwriting profit for 1938; but the rating plan, which at present utilizes past experience for years that were profitable, is producing reduced rates at a time when adverse conditions would indicate the maintenance of the *status quo* or an increase in the rate level. Accordingly, it is likely that the carriers are once again entering a period of underwriting loss. It is hoped, however, that present rate-making methods will bring sufficient stabilization to avoid the huge underwriting loss (over $165,000,000) of the previous period of adversity (1923 to 1935).

MISCELLANEOUS PUBLIC AND PROPERTY DAMAGE LIABILITY INSURANCE

There have been no developments of importance in this department, which is the great catch-all of the business. Into this classification fall all the forms of coverage (except automobile and aircraft insurance) which protect persons, firms and corporations against responsibilities for bodily injuries and property damage accidentally sustained by members of the public. New requirements constantly appear as legal decisions are handed down by the courts and new legislation is enacted, and the task of providing facilities for meeting these requirements is not always a simple one. It is in this department that the greatest margin for future expansion exists.

One difficulty has been that of maintaining rates on an adequate basis. Just now a national revision of rates is under way for owners', landlords' and tenants' insurance, protecting property-owners and lessees against liability arising out of the ownership, operation and maintenance of such properties as office buildings, apartments, tenements, stores, etc.

PLATE GLASS INSURANCE

This line continued to be unprofitable. Years ago it was most profitable and the inevitable results of prosperity have been realized. Non-conference competitive activity has increased and rate reductions designed to meet this competition soon removed all the profit from the business. Little hope exists that this condition will be corrected in the near future.

BURGLARY, THEFT AND ROBBERY INSURANCE

Conditions in this field continue to be fairly normal, although the crimes insured against tend to increase in frequency during periods of depression. An interesting development has been the adoption of new coverages and rates for hazards formerly written by inland marine insurance departments of fire insurance companies. A conflict in jurisdiction between carriers of the two classes (inland marine departments and casualty companies) led the National Convention of Insurance Commissioners to partition the field. In line with this program indemnity carriers, during 1938, adopted coverages and rates for two new forms of insurance:

(1) Accounts receivable insurance, which insures against loss and destruction of the policyholder's accounts receivable records. The coverage granted protects the policyholder primarily against the fire hazard, but is broad enough to include other causes of loss, such as windstorm and sabotage.

(2) All-risk security insurance, covering securities deposited with public officials. This form provides protection for organizations like insurance carriers and banks, which are required by law to deposit securities with governmental officials. The coverage is broad and protects the policyholder against loss from any cause whatsoever.

ACCIDENT AND HEALTH INSURANCE

Accident and health insurance sales continue to demonstrate that the public has become insurance conscious because of social and economic changes tending to increase the general feeling of insecurity. These lines are holding their volume despite the recession which, incidentally, has not been reflected in the loss ratio as yet. The tendency is to develop new protection designed to reimburse the policyholder for the expenses of treatment of injuries or illness. The growth of hospitalization plans is creating some demand for insurance of this type and some underwriters are experimenting in this field with caution. It remains to be seen whether public hospitalization programs will develop into another nonprofit encroachment on the field of insurance.

FIDELITY AND SURETY BONDS

This branch of the business has shown a continued satisfactory experience, few depression losses having appeared as yet. Whether a large number of latent losses of this type exists is problematical. Undoubtedly a protracted period of "bad times" will bring many to light; but if the depression passes soon, no great change in underwriting results need be anticipated.

An important event has been the acquisition by the carriers of the ratemaking organization of R. H. Towner which, for many years, established and administered the rates for conference carriers. Beginning Jan. 1, 1938, the Towner Rating Bureau, Inc. began to function under the able direction of President Martin W. Lewis, who had been associated for many years with Mr. Towner. The problem of ratemaking has been attacked with renewed vigor and it is obvious that bonding rates hereafter will be established not only with regard to past experience, but also with serious consideration for current conditions in the business. Already rates have been adjusted for two important branches of the business—commercial blanket fidelity bonds and bankers' and brokers' blanket bonds, as well as for numerous smaller classifications.

INVESTMENTS

In a market which has fluctuated a great deal because of changing domestic and international conditions, the security portfolios of indemnity carriers have, in general, been enhanced in value. So far as assets are concerned, the position of carriers of this class promises well.

The returns from investments, however, have declined and it has become increasingly difficult to invest funds in sound securities without still further reducing investment income. In fact, the problem of investments is, perhaps, the most difficult one confronting indemnity carriers at the end of 1938.

CHRONOLOGY OF BUSINESS AND FINANCE

(From *The New York Times,* January 3, 1939)

JANUARY

Jan. 3—President's message to Congress asks capital and labor to cooperate for recovery; repeats none of the December attacks on business by Ickes and Jackson. Erie Railroad defaults on January interest, RFC having refused assistance unless C. & O. guarantees the loan, which is refused.

Jan. 4—Stock averages up 2½ points; Roosevelt intimates conferences with business.

Jan. 5—Steel ouput 25½ per cent of capacity, against 20 at year-end.

Jan. 6—RFC approves $8,223,000 loan to B. & O. Averages rise 3¾.

Jan. 10—Sharp decline in franc. Stock averages rise 2½ points.

Jan. 11—Large manufacturers invited to conference with Roosevelt.

Jan. 12—Franc very weak. Roosevelt invites forty-six business leaders to new conference. Consolidated Edison offers $30,000,000 3½ per cent debentures at 101¾. Loan promptly taken; Curb prices 102½. Steel output rises to 28.

Jan. 13—Appalachian Power announces offer of $67,000,000 new securities; withdrawn in autumn.

Jan. 14—Franc breaks again; Chautemps Ministry resigns. Roosevelt at press conference intimates casually abolition of all holding companies, asking "Why should there be any holding companies?"

Jan. 18—Court takes over Erie Railroad.

Jan. 19—Steel output 30 per cent.

Jan. 21—Chautemps forms new French Ministry. TVA power program upheld by lower Federal court.

Jan. 24—SEC decrees against short sales at or below current market.

Jan. 26—Heavy break in stocks; averages down 4 points, day's sales 1,606,000. Steel output rises for fourth successive week, to 32½.

FEBRUARY

Feb. 1—Stock averages rise 1¾ points, making 3⅛ in two days. Steel output down from 32½ per cent of capacity to 31; first decline in five weeks.

Feb. 3—Averages fall 3 points, trading 1,000,000 shares. American Telephone down 8⅛.

Feb. 4—Averages touch 82.76, lowest of 1938 to date and less than a point above lowest of 1937 (82.07 on Nov. 24), but recover 2⅝ before the close.

Feb. 7—Stock Exchange trading smallest of any full day since Aug. 31, 1937.

Feb. 8—Averages up 3 points to 88.50; highest since Jan. 27.

Feb. 9—Steel output unchanged at 31 per cent.

Feb. 10—French bank's gold reserve reduced 3,127,000,000 francs (approximately $102,000,000) by transfer to Equalization Fund. Franc fractionally higher on exchange market.

Feb. 14—Drastic Crop-Control Bill voted by Senate 56 to 31. Treasury announces change in "gold sterilization policy," whereby only gold arrivals in excess of $100,000,000 in each quarter will be bought for the "inactive fund." Inactive gold now held, $1,223,249,465. Immediate release of $30,000,000 added to the inactive fund thus far in current quarter. Stock market averages rise 1 point, then decline 1½.

Feb. 15—Austria yields to German demands; admits Nazis to ministry.

Feb. 16—London and Paris markets weak.

Feb. 17—New York stock average rises 2⅝ points; Wall Street talks inflation of prices and credit. Steel output unchanged at 31 per cent; same date 1937 had risen from 75 to 82½ in three weeks.

Feb. 20—Hitler makes speech on Sunday to Reichstag; declarations somewhat threatening as to foreign policy. Anthony Eden, British Foreign Minister, resigns on difference with Prime Minister Chamberlain over attitude towards dictators.

Feb. 21—Commons by good majority sustains Chamberlain. European markets quiet. Austrian 7s fall 18 points at New York.

Feb. 22—London and Paris markets rise.

Feb. 23—Further rise at London and Paris. New York stock average up 2⅞ points. Steel output declines from 31 per cent to 30.

MARCH

March 2—Stocks advance. Nazi demonstrations in Austria checked by ministry. Steel output unchanged at 30 per cent.

March 8—Richard Whitney & Co. fail. Reports of misappropriation of securities held in trust for customers. Commerce Commission denies 15 per cent flat rise in railway freight rates, but grants 5 to 10 per cent on different commodities. Estimated will add $200,000,000 to railway revenues. Franc falls to 3.21½ cents, lowest since November, 1926; comparing with 3.40¼ Jan. 3, 1938, and 4.67¾ highest 1937.

March 9—Stocks decline on disappointment at railway-rate decision, but recover all the loss. Steel output unchanged at 30 per cent.

March 10—Disorders in Austria. German troops move to Austrian frontier.

March 11—Nazis seize Austria; invite

Hitler. Stock averages decline 1¾ points.

March 13—Austria annexed to Germany; Hitler becomes Commander in Chief of German and Austrian Armies.

March 14—Hitler enters Vienna. Stock average less 1⅜ points. Franc falls to 3.04 cents, equivalent 1.79½ at old dollar valuation, whereas lowest reached in 1926 was 1.93¾. Austrian 7 per cent dollar bonds fall 37½ points. Sterling declines to $4.98½, lowest since November, 1937; comparing with high of $5.03⅞ February. Whitney confesses in court misappropriation of clients' securities.

March 15—Averages rise 2¾ points. Sterling falls ⅝ cent; $2,255,000 gold engaged at London, first import from there since Sept. 1937. Franc recovers from 3.04 cents to 3.06¼. European markets hesitant.

March 16—European markets greatly disordered by war talk. Wall Street averages decline nearly 4 points, recovering 1 point. Austrian 7s decline 4¼ and recover 2; Czecho-Slovakia 8s fall 14 points. Sterling 1⅝ cents lower; $980,000 more gold engaged at London. Franc recovers further from 3.06¼ cents to 3.12¼. Steel production rises from 30 per cent to 32.

March 17—European markets recover. New York stock averages rise 1 point, then decline 2 on late news of Poland's ultimatum to Lithuania. Bonds weak, but many foreign dollar bonds recover. Franc declines to 3.08½ cents; sterling rises 1 3/16 cents, then declines 1 3/16; Dutch guilder up from 55.15 cents to 55.30.

March 18—Authentic news of Poland's twenty-four-hour ultimatum to Lithuania causes outbreak of war scare on foreign markets. Sterling declines 1⅝ cents. On New York market stock average falls 3⅞ points and recovers 1; domestic bond average declines ⅝ to year's lowest; foreign dollar bond average falls 7⅜. Czecho-Slovakian 7s fall 9⅛ points, on apprehension of German aggression.

March 19—On report of Lithuania's yielding to Poland's ultimatum, stock average rises 1½ points in dull market. Foreign bonds recover ⅞ point, home bonds rise fractionally. Sterling and franc recover.

March 21—Stock average rises 1¾ points, domestic bond average ½, foreign bond average ⅞. Franc lower, sterling weak. Announcement of $5,530,000 more gold engagements abroad, making total of $10,529,000 engaged in London.

March 22—Stock average down 2⅞ points; foreign bond average up ⅜. London market strong and active. Sterling up 1 3/16 point, franc rises from 3.04¾ cents to 3.06⅞; $4,219,000 gold engaged for import from Belgium.

March 23—Stock averages fall 3 points; little recovery. Steel production rises from 32 per cent to 34; highest of year to date and highest since Nov. 17, 1937.

March 24—President Roosevelt, in Gainesville speech, declares that "today national progress and national prosperity are being held back chiefly because of selfishness on the part of a few." Senate Finance Committee votes repeal of undistributed profits tax.

March 25—Stock averages fall 4½ points, recover ⅜. Congressional examination of TVA dispute voted by Senate.

March 26—Hitler speaks at Koenigsberg on Germany's protection of German-speaking minorities in other countries.

March 27—United States stops buying Mexican silver, as reprisal for seizure of foreign-owned oil lands by Mexican Government.

March 28—Amended bill for reorganization of executive bureaus passed by Senate, 49 to 42.

March 29—Stock averages fall 4 points, on sales of 1,700,000 shares. United States Steel and American Telephone decline 4 points each. European markets weak. Bond averages down ⅝. Sterling rises 1 cent, franc goes from 3.02¼ cents to 3.05⅝, but $8,200,000 more gold engagements are announced;

$5,800,000 from Japan, the rest from England.

March 30—President Roosevelt declares that he has "no inclination to be a dictator." Stock averages decline 1¼ points, recover ⅝; bonds lower. Steel output up from 34 per cent to 35½.

March 31—Stock averages decline 2⅝ points, recover 1⅛; bond average down ⅝.

APRIL

April 1—Reorganization Bill hotly opposed in Congress. Stock average rises 3¼ points, reacts ⅝.

April 2—Stock averages rise 2¾ points; bond averages ⅝.

April 4—Franc rises from 3.07½¢ to 3.12⅞ on Premier Blum's proposal for non-renewable capital levy of 4 per cent to 17 per cent, according to size; also special tax on large profits of manufacturers of war material, and reservation of right to revalue bank's gold reserves.

April 5—Stock averages rise 1¾ points; domestic bond averages up ⅝; both highest since March 25. Engagement reported of $5,800,000 gold in Japan, making $21,900,000 sent here by Japan thus far in 1938.

April 6—Stocks weak; wheat at lowest since 1934. NLRB insists on written contracts with insurgent unions by Republic Steel and Inland Steel. Output of steel declines from 35½ per cent to 32½.

April 7—House defeats moves to sidetrack Bureau Reorganization Bill.

April 8—House unexpectedly kills Bureau Reorganization Bill late in day, 204 to 196; action taken as vote of "want of confidence in President." Talk of huge bond-issue program by President causes fall of 1/32 to 6/32 point in United States bonds. Blum Ministry defeated, 223 to 49, in French Senate. Daladier called to form Ministry.

April 9—Overnight rise of 2 to 6 points in stocks on Reorganization Bill defeat; averages up 4¼. Trading 1,400,000 shares, but prices change little after opening advance. Bond averages up ¾.

April 11—Roosevelt plans radio appeal to nation; Garner reported balking. Presidential message gives without recommendation plans of railway relief, saying that "some immediate legislation for relief is necessary at this session, in order to prevent serious financial and operating difficulties between now and the convening of the next Congress."

April 12—French Deputies confer "decree powers" on Daladier until July 31; vote, 508 to 12. Franc up from 3.10¼¢ to 3.12 13/16.

April 13—French Senate confers "decree powers" on Daladier ministry, vote 288 to 1. Franc rises 3.12 15/16 to 3.15½, against year's lowest, 3.00½, March 15. Steel output down from 32½ per cent to 32.

April 14—Roosevelt, in message to Congress, recommends $3,050,000,000 expenditure for direct relief, $1,462,000,000 for public works, desterilization of $1,400,000,000 gold held by Treasury, and reduction of $750,000,000 in reserve requirements of member banks. Defends proposals in broadcast speech. Stock averages up 1¾ points, down ½ point.

April 15—Reserve Board announces reduction of approximately 13¼ per cent in reserve requirements of member banks, bringing requirements approximately to those effective prior to last raising of requirements on May 1, 1937. Board estimates resultant increase in excess reserves at $750,000,000. Railway unions reject proposal of railways to discuss voluntary cut in wages.

April 16—Anglo-Italian pact agreed upon. Stock averages rise 3 points, reacting ¼.

April 18—Treasury abandons gold "sterlizing"; announces that "the inactive gold account has been discontinued." Existing inactive holdings $1,182,974,522. Stocks weak.

April 20—Steel output unchanged at 32 per cent.

April 22—Treasury announces that disbursements from inactive gold fund will for the present be applied to redemption in cash of one-half the weekly maturities of

$100,000,000 in Treasury bills. Surplus member bank reserves, as result of reduction in reserve requirements, rose for week $760,000,000 to $2.490,000,000, largest since August, 1936, but comparing with previous maximum of $3,304,000,000 on Dec. 11, 1935.

April 25—Roosevelt asks Congress for legislation to end tax-exemption on State and Federal bonds, and on government officeholders' salaries.

April 26—U. S. Steel passes quarterly common dividend again, but pays full $6,304,000 dividend on preferred from accumulated surplus, quarter's deficit before dividends being $1,292,151. Sixteen business leaders offer cooperation with government for recovery. Stock averages down 2½ points. Steel output unchanged at 32 per cent.

April 27—Henry Ford at White House.

April 28—England and France agree on close defensive alliance by land, sea and air. Averages down 2⅜ points.

April 29—Railways ask 15 per cent cut in wages of employes, affecting all classes of employes, to save in the aggregate $250,000,000.

MAY

May 3—U. S. Steel announces $100,000,000 bond issue, half to retire bank loans, half for plant extension; company's first bond sale since 1907. All of company's direct bond issues retired through stock issue in 1929.

May 4—Franc exchange touches 2.88¢, lowest of year, comparing with 3.40¼ in January. Steel output 30½ per cent, against 32.

May 5—Daladier announces franc devaluation to minimum 179 per pound; equivalent 2.79¢ American exchange, lowest dollar value since Oct. 2, 1926, lowest gold value on record.

May 6—Return capital to France, estimated at 10,000.000.000 francs, or $270,000,000. Stock average down 2⅞ points.

May 9—Sharp decline of belga; talk of devaluation.

May 11—Modified tax bill passes Congress. Steel output unchanged at 30½ per cent.

May 12—President's pump-priming bill passes H. R., 329 to 70.

May 18—Steel output 30 per cent against 30½.

May 20—Chairman of SEC proposes establishment of clearing trust company to handle for brokers transfer and deposit of securities to or from customers.

May 21—Czecho-Slovakians mobilize army in German district of country, with view to protection against interference in the Sunday elections.

May 22—Czech elections pass off quietly.

May 23—Czech bonds decline 1½ points. Sharp downward reaction in foreign exchange due to Czech crisis.

May 24—Henlein, representing Sudeten Czechs, breaks off Prague talks with Czech Government. Foreign exchange moves hesitantly.

May 25—Steel output 28 per cent, lowest of year except for first week in January.

May 26—Stocks weak, but foreign exchanges advance sharply.

JUNE

June 1—Stock averages up 2⅛ points. Steel output unchanged at 25%. Germany defaults on Austrian bonds.

June 2—United States Senate. 60 to 10, passes "pump-priming bill," authorizing expenditure of $3.722,905,000. Trading in stocks 284.000 shares, smallest full day since July 16, 1923, excepting only Aug. 20, 1934.

June 5—Treasury offers $1,214.472,000 in 2¾% 25-year bonds or 1⅛% 5-year notes in exchange for $618,056,800 2⅞% notes maturing June 15 and $596,416,100 maturing Sept. 15.

June 7—$14,000,000 gold arrives, mostly from England.

June 8—Steel output unchanged at 25%.

June 9—Wheat rises 2⅜¢ on news wheat damage as result of Winter frosts. Stock average up 1¾.

June 10—Wheat prices hold, despite

government estimate of high record yield 1,020,623,000 to 1,045,623,000 bushels. European exchange rates move against dollar; sterling up 1¢; rumors of fresh dollar devaluation. Railroad relief legislation dropped by Congress.

June 11—Wheat rises 4½¢ on crop-damage advices; July contracts sell at 79⅝¢, against year's lowest of 67⅝ May 31. European exchanges again move against N. Y.

June 13—Treasury announces all but $27,841,000 of $1,214,472,900 of new bonds offered in exchange were taken; $918,849,000 in twenty-five-year bonds, $267,781,000 in five-year notes.

June 14—Further rise in sterling.

June 15—Electric power output raises weekly adjusted index from 89.4 to 90.8. Steel output up from 25 per cent to 26.

June 17—Congress adjourns; no action on railways.

June 20—Sudden rise of 4 points in stock average; day's trading 1,087,000 shares, largest since April 22. More cheerful atmosphere in Wall Street. Morgenthau and President deny purpose of dollar devaluation.

June 21—Stock average rises 2½ points, with partial reaction. Trading 1,457,000 shares.

June 22—Stock average up 3 points, trading 1,713,000 shares. Many railway bonds up 1 to 5 points. Steel output rises from 26 to 28 per cent. *Iron Age* writes feeling is general that business will not be as black in summer as was expected.

June 23—Stock average up 3 points, transactions 2,430,000 shares.

June 24—Rise in stocks 2¼ points on 2,290,000 shares. U. S. Steel cuts steel prices 6 and 17 per cent; denies that there will be no wage cuts.

June 25—Stocks rise 2 points, making week's net gain 14⅜, largest of any week since 1929. Week's transactions 10,000,000 shares, largest since October, 1937.

June 29—Stock averages rise 4½ points to high of the year to date; largest day's gain since Oct. 20, 1937. Sales 2,658,000 shares, largest since Oct. 29. Steel output unchanged at 28 per cent.

JULY

July 1—Stock averages rise 2⅛ points, trading 2,000,000 shares. Copper's price rises 9¢ to 9½¢, first change since May.

July 2—Stocks up 2 points.

July 5—Stock averages rise 2⅞, then decline 1 point.

July 6—Commerce Commission reverses decision of April denying higher passenger fares to Eastern railways; rate raised from 2¢ to 2½¢ per mile. Steel output down from 28 per cent to 23, lowest full week of year.

July 7—Stocks fractionally lower, on trading of 2,775,000 shares, largest of year to date.

July 8—Agricultural Department reports cotton planted for 1938 as 26,904,000 acres, against 34,471,000 in 1937, decrease 22 per cent, and smallest planting since department's records began in 1907. Unofficially estimated yield, 10,250,000 to 11,500,000 bales.

July 12—Stock averages rise 3 points, then decline 1⅜.

July 13—Sales of stocks 2,618,950 shares. Averages up 1¾, down 1⅜. Steel output rises sharply from 23 per cent to 32.

July 14—Wheat loans authorized by government at 59@60¢.

July 15—AAA allots wheat acreage for 1939 at 55,000,000 acres, minimum under law, against 80,000,000 planted for 1938.

July 18—Stocks advance 1⅝ point, then decline ⅜; transactions 2,942,000 shares, largest of year to date. Heavy break in Berlin stock market.

July 19—Stocks up 2⅝; trading 2,509,000 shares. Sterling very weak, touching $4.91¼, against year's high of $5.03⅞ in February.

July 20—Steel output rises further from 32% to 36.

July 25—Stock averages rise 1½ points, then decline 1¼, reaching 103.94, highest average since Oct. 11, making advance of 34¼ points since March 31. Wheat falls to 67¾¢ at Chicago, lowest in 5 years, on Agricultural Department's estimate world crop will be 4,200,000,000 bushels, breaking records.

July 26—Stock averages down 1½ points. U. S. Steel again passes common dividend, paying full preferred dividend. Reports net result of first half 1938 before dividends loss of $6,302,577, against profit of $64,735,215 first half 1937.

July 27—Stocks decline, trading 1,973,000 shares. Averages down 3½ points, recovering ⅞, largest decline since rise began June 20. Steel output up from 36% to 37.

July 28—Stock averages recover 1½ points, sales 1,065,000 shares, sterling very weak.

July 29—Sterling at $4.91¼, lowest of year to date; had been $5.03⅞ on Feb. 16.

AUGUST

Aug. 1—Stock transactions fall to 586,000 shares; smallest for 5-hour-day since June 17, week before large upward movement began. Japan ships $5,800,000 gold to U. S., making $346,000,000 sent since March 24, 1937. Wheat, oats and rye sell at lowest prices since 1922; Sept. wheat at 66¾.

Aug. 2—Wheat makes new low price for year at 66⅝¢. Price of gold up 2d. in London, on purchases of $7,500,000. Sterling at $4.90, lowest since Apr. 12, 1937.

Aug. 3—Heavy buying of gold at London. Sterling $4.88 15-16, comparing with $4.95¾ high in July and year's highest $5.03⅞ on Feb. 16. Day's rate lowest since April 9, 1937. Steel output 40% of capacity, against 37 week before and lowest of year 25.

Aug. 4—Stock averages up 2¼; trading exceeds 1,000,000 shares. Wheat falls to 64⅝¢, five-year low. Foreign exchange weak.

Aug. 6—Averages up 1¾; within ¾ point of year's high.

Aug. 9—Sterling 4.87⅝, lowest since Nov. 9, 1936; franc at record low.

Aug. 10—Steel output unchanged at 40 per cent of capacity.

Aug. 11—Averages decline 2¾; trading 1,000,000 shares. Wheat and corn at new low prices for season.

Aug. 12—Averages down 2⅞, then up 1; sales 1,479,000 shares. Wheat, corn, sterling at new low prices. Mediation Board takes up question of cut in railway wages.

Aug. 16—Averages up 1¼ on light business.

Aug. 17—Steel output up from 40% to 41.

Aug. 18—Stock Exchange trading smallest since June 17.

Aug. 19—Averages rise 2⅛, then decline 1.

Aug. 20—Agricultural Department estimates farm cash income 1938, plus government benefits, at $7,500,000,000, against $8,600,000,000 in 1937, $7,944,000,000 in 1936 and $4,328,000,000 in 1932.

Aug. 22—Stock Exchange trading only 396,000 shares; smallest full day since June 17.

Aug. 23—Stock averages up 2¼ points on million-share trading. Sharp rise in railway bonds; Southern Ry. issues up 1⅜@3½; numerous other bonds rise 1@2½.

Aug. 24—Bond average rises ¼ point on heavy trading, making advance 10 points since March. Numerous advances 1 to 2 points in railway bonds. Stocks higher, transactions 1,235,000 shares. Steel output up from 41 per cent to 43, highest since second week of November; contrasting with low of 25 per cent at beginning June, 1938.

Aug. 26—Stock averages decline 1 point. Secretary of Agriculture announces export subsidy of wheat, to buy 100,000,000 bushels for government and place it on foreign markets.

Aug. 27—Averages down 1 point.

Aug. 29—Markets dominated by sudden European war scare over relations of Germany and Czecho-Slovakia. Foreign stock markets decline sharply; New York stock averages fall 3¾ points, with little recovery; trading 1,248,000 shares. Sterling falls to $4.86¾, lowest since May 15, 1935; all other European exchange rates demoralized. Gold shipments of $3,038,000 from London announced, making $64,300,000 taken since July 26.

Aug. 30—Stock averages recover 1½ points, trading reduced nearly one-half. Domestic bond averages down ⅛. Czecho-Slovakia 8s of 1951 rise 10½ points. 8s of 1952 rise 12½. Sterling exchange declines 1⅛ cents to $4.85 13–16, lowest since May 11, 1935.

Aug. 31—Mediation Board reports failure to induce railway labor unions to consent to arbitration of wage dispute. Stock market very inactive. Sterling at London falls to $4.85. Steel output up from 43 to 44.

SEPTEMBER

Sept. 1—Stocks advance. Strike vote ordered by R. R. unions if 15 per cent wage cut is enforced.

Sept. 3—Stock averages advance, nearly recovering all ground lost in "war scare" of Aug. 29. B. & O. management announces that it will ask security holders for voluntary extension of maturity on bonds and reduction of interest rate on junior bonds from 5 and 6 per cent to 1 and 1 1–5. Reduction to apply for 8-year period, but full interest rate to be cumulative and contingent on earnings during that period. Plan submitted for approval to I. C. C. Sterling declines to $4.84⅛, lowest since May 9, 1935.

Sept. 5—Labor Day. Sterling falls to $4.82¼ in London, against 5.03⅞ Feb. 16.

Sept. 6—Sterling falls to $4.81½ in London, lowest since April, 1935, on contradictory stories regarding Czech controversy. Czech Government 8s rise 1 point. Wheat falls 2¼¢ to 60¼.

Sept. 7—Sterling up to $4.83¼. Czech 8 per cents, rise 3 and 4 points, touching 90, against 50 in break of springtime. Wheat falls to 59⅝¢, but recovers to 61.

Sept. 8—Treasury offers $700,000,000 bonds for cash subscription -$400,-000,000 in 14-year 2½s and $300,-000,000 in 5-year 1⅛s. Offering ten times oversubscribed. Czech 8s decline 2 to 3½ points. Steel output down from 44 per cent to 40; decline due Labor Day suspension.

Sept. 9—Stock market weak. Wheat up 1½¢. Gold engaged at London, $5,800,000.

Sept. 12—Wheat declines ¾¢. Hitler, speaking at Nuremberg, denounces President Benes of Czecho-Slovakia as "liar," and intimates that if Sudetens can not obtain rights and assistance by themselves "they can obtain both from us."

Sept. 13—Wheat rises 3⅜¢; sterling steady; stock averages fall 3½ points.

Sept. 14—Sudden panic on markets, due collision Sudeten Germans with Czech police. British consols fall 3 points. All European State bonds weak. New York stock averages decline 3¼, then recover 1¾; sales 2,819,000 shares, second largest of year, exceeded only July 19. Home and foreign bonds very weak, some European dollar bonds losing 2 to 5 points. Sterling falls 1⅜¢ to $4.78⅝, but recovers 2⅝¢ on late news of Chamberlain's air flight to confer with Hitler in Germany. Steel output 45½ per cent.

Sept. 15—Averages up 3 points, sterling down ⅞¢, recovering ¼; wheat rises 2⅛¢.

Sept. 16—Averages fall 1⅝ points on news of Chamberlain's return to London. Sterling declines 1¢ and recovers ½. Heavy engagements of European gold. Wheat steadier.

Sept. 17—Wheat market weak. Sterling down ⅝¢, stock averages decline 2⅛ points and recover ½, on dislike of speculators to hold positions over Sunday.

Sept. 19—Market bewildered by late Sunday cables, reporting surrender of Sudeten Czecho-Slovakia to German demands by Cabinets of England and France. All markets cautious, but move favorably. Stock average rose 1¾ points on light trading; domestic and foreign bonds strengthened. Sterling advanced 1 7–16, then receded 3–16. Wheat declined 2¼¢, recovering ½ at close.

Sept. 20—Reiteration by French and British Cabinets that their countries would not go to war to prevent Czecho-Slovakian dismemberment caused immediate recovery, first on foreign then on domestic markets. New York stock average rose 3¼ points and reacted 1⅞ on trading of 1,200,000 shares. Sterling advanced 2¼¢, then declined 1¢ on intimation of Czech refusal of proposals. Wheat declined 1¾¢, then recovered ½¢.

Sept. 21—Czech ministry gives up Sudeten. Market in doubt as to next move. Hurricane sweeps over New England States. Stock average down ¾, up ⅜; domestic bonds ⅜ higher, foreign bonds ⅜ lower. Czech 8s down 7¼@8¼. Sterling 7–16 higher, wheat declines 1½¢ and recovers ¼. Steel output rose 47½% capacity, against 45½ preceding week, against 76 in same week of 1937. Prices sharply reduced on railroad material.

Sept. 22—Complete bewilderment in advance of Chamberlain's second visit to Hitler. Stock averages down 1½ and up ⅜; domestic bond averages unchanged. Foreign dollar bonds down 1½; Czech 8s 8¾@15 points lower. Wheat recovers 1½, reacts ⅜. Sterling down 1⅞¢, recovers 5–16. Gold engagements, temporarily interrupted by advance in Lloyd's war risks, are resumed.

Sept. 23—Financial sentiment gloomy on fear that Hitler will insist on restoration of Czecho-Slovak territory to Poland and Hungary. British government bonds down ½ point for day. N. Y. stock average fall 2¼ points and recovers ⅛. Sterling falls 2 1–16¢; wheat rises 1⅞¢, then reacts ¾.

Sept. 24—Saturday markets governed by impending Sunday holiday, in which anything might happen in Europe. Stock averages decline 2⅜ points but recover 1½. Wheat rises 4¢, losing 3⅛ before close. Sterling declines 1¢ further. Federal Reserve reports $500,000,000 gold has been imported in five weeks and that $100,000,000 per week is coming in now.

Sept. 26—Hitler's speech at Berlin caused contradictory interpretations, but generally unfavorable because of its attack on Czecho-Slovakia and President Benes. On trading of 1,200,000 shares, stock averages declined 4½ and recovered 1¾. Domestic bond averages down ½, foreign dollar bonds average 3⅜. United States government bonds very weak, declines running to ½ point. Sterling sold down 2 11–16¢; wheat declined 2⅛, recovered 1⅞.

Sept. 27—Chamberlain's discouraging speech at London caused decline of 2⅜¢ in sterling to 4.72⅜, lowest since March, 1935. Stocks uncertain, trading light. Stock averages declined ½ point and recovered ½. Bond averages closed ⅜ point lower, foreign bonds ¾. Wheat declined 2¢ and recovered 1⅜.

Sept. 28—Day of excitement on all markets. Disorderly early London market, on expectation prospect peace hopeless, British funds protected by official minimum prices. But gold rose to 147s per ounce, highest since March, 1935, sterling fell 10¼ cents to $4.61¼, lowest since October, 1933, and wheat rose 7¾d per 100 pounds. At New York opening, sterling fell 7⅞ to $4.60, lowest since 1933, and comparing with $4.85¾ on Sept. 1. But at 10:28 A.M. news arrived of Mussolini's offer of mediation and of four-power conference at Munich. Wild recovery ensued at New York. Sterling rose 13⅝ cents to $4.73⅝. Wheat, having declined 2¼ cents at Chicago, recovered 1¾. Stock averages, on trading of 1,572,000 shares, declined 1½, then rose 4¾; foreign dollar bond averages closed 2⅞ points higher. Steel output down from 47½ per cent to 47.

Sept. 29—On news that the four-power conference at Munich was working smoothly, recovery in the markets continued. It started at London, where recovery of 5½@6 points in British funds led a general recovery. At N.Y., stock averages rose 3 points on trading of 1,200,000 shares, reacting only ¼ point. Domestic bond averages advanced 1 point, foreign bond averages 3⅛. Czecho-Slovak 8s recovered 17¾. Sterling rose 4⅞¢ at N.Y., reaching $4.78½, then reacted ⅜. Wheat declined ⅝ and recovered 1¢.

Sept. 30—European markets set the pace for further recovery, Stimulated by dispatches reporting a future anti-war agreement between Chamberlain and Hitler, sterling recovered 6¼ cents to $4.84⅜, declining 1 cent at the close; wheat declined 2 cents and recovered ¼. New York stock average advanced 3⅛, reacting ⅝; it was 10⅛ points above the lowest of Sept. 8. Domestic bond average rose 1⅛; foreign dollar bond average 3¼, with such individual advances as 7⅜ points in Italian 7s, 9 in Poland 7s, 5¾ in German 7s, 4 in Belgian 6½s, 4½ in Australian 4½s. United States Government bonds recovered ⅛ to ⅝.

OCTOBER

Oct. 1—Recovery continued. Stock averages rose 1¾ points; domestic bond averages ⅝, foreign bond averages 2¼. Wheat, however, ended the day unchanged, and sterling exchange declined 1½ cent.

Oct. 3—Continued recovery on Stock Exchange. Average for stocks advanced 1½ points on 1,400,000 shares, reacting ½. Domestic bond averages rose 1 point, foreign bond averages 6. Wheat advanced ¾¢ and declined ⅝. Sterling declined 2½¢ to 4.79; $2,270,000 more gold engaged abroad.

Oct. 4—Pace of recovery slackened. Averages declined nearly ¼ point for stocks, ⅝ for foreign bonds. Domestic bonds practically unchanged. Sterling declined ⅞¢ to $4.78⅜, recovered 1¾¢. Wheat declined 2¢ and recovered ⅜.

Oct. 5—Heavy buying of stocks, trading 2,235,910 shares. Stock averages advanced 3⅞ points, passing for first time previous high of 1938; day's average highest since Oct. 11, 1937. Domestic and foreign bond averages ½ to ¾ point higher. Sterling declined ¾¢, then advanced 1¾ to $4.81⅛. Wheat declined ⅝ and recovered 1½. Steel output up from 47 to 49 per cent, highest since last week of October, 1937, and nearly double weekly output at end of June.

Oct. 6—Stock averages up 1¾ points, then down 2, on trading of 2,450,000 shares. Bonds generally higher, but Czecho-Slovak 8s declined 27 points. Sterling up ¾¢, then down 1¼. Wheat declines ⅜¢. Bank of England's reserve ratio 13.8%, lowest since 1935; Bank of France reports 10,000,000,000-franc advances to State in three weeks.

Oct. 7—Sterling falls 2¼¢ to $4.78¼, recovering ¼. Further rise in stocks, domestic bonds and foreign bonds.

Oct. 8—On unusually active business for a Saturday, stock average rises 1¼ points, reacting ⅜. Bonds higher. Week's gold arrivals break all records. Cut of $4 a ton in sheet steel.

Oct. 10—Sterling falls 2 13–16¢ to $4.75 11–16. Largest cargo of gold ever brought in on a single vessel; $51,000,000 arrives by the *President Roosevelt*.

Oct. 11—Sterling down 13–16¢ further to $4.75 1–16; $7,011,000 gold engaged abroad, $1,400,000 from England, rest from Japan.

Oct. 12—Steel output 51½ per cent of capacity; up 2½% for week, 4½ for two weeks. Highest since Oct. 27, 1937.

Oct. 13—Sterling declines 1½¢ to $4.73 1–16. Day's engagement of gold abroad $8,700,000. Reserve ratio recovers at Banks of England and France.

Oct. 15—Strong and active Saturday markets. Week's gold engagements $37,672,000, of which $27,372,000 from England.

Oct. 17—Sterling recovers 1¼¢ to $4.74¾.

Oct. 18—Sterling up 2¢ to $4.76¾. Day's gold arrivals $34,000,000, of which $25,250,000 from English and French stabilization funds. Member banks report $28,000,000 increase for week in commercial loans, largest in exactly one year.

Oct. 19—Stock average down 2 points on business of 2,400,000 shares, thereby losing 3½ points from 11¼¢ recovery since war scare. Sterling up 1¾¢ to $4.78½, then down ½¢. Steel output reacted ½ point to 51 per cent of capacity, but new orders reported as large.

Steelmakers rescind cuts of $4 to $6 per ton.

Oct. 20—Sterling having recovered more than 5¢ in less than a week, declined 2 7–16¢. New gold engagements abroad, $4,700,000, all from England. Gold in Treasury crosses $14,000,000,000, amounting to $14,008,236,361, against $13,997,779,781 day before. Thirteen-billion mark passed on July 27, 1938.

Oct. 21—Sterling up 1½¢, then down ⅜. Agricultural Department increases estimate of world's wheat crop 20,000,000 bushels to 4,365,000,000, high record.

Oct. 22—Stock averages rise 1½ points to highest level of 1938; trading, 1,126,000 shares, large for a Saturday. Automobile output for week 68,360 units, highest of year; rise for week 17,820 units, or 35 per cent, but comparing with 91,905 in 1937.

Oct. 23—Sterling up ¼¢, $7,700,000 gold engaged abroad, $3,400,000 from England.

Oct. 25—Sterling up ⅞, then down 7–16. Gold engaged in England, $3,296,000. U.S. Steel reports for third quarter an operating loss of $385,388 before fixed charges, against $575,190 in second quarter, when steel production was much smaller.

Oct. 26—Stock averages down 2 points, recover ¾, sales 1,700,000 shares. Sterling rises 1¼¢, other foreign exchanges up. Gold arrivals $43,000,000; $11,500,000 from England, $15,500,000 from France. Steel output up from 51% to 54, highest in slightly more than a year.

Oct. 27—Foreign exchanges weak. Sterling down 1½¢ to $4.76⅜. Gold engagements $1,200,000, of which $800,000 from England.

Oct. 28—$27,000,000 gold arrived from England, $25,000,000 ascribed to Equalization Fund.

Oct. 29—President's "fact-finding commission" on railway wage dispute recommends on Saturday afternoon withdrawal of 15% wage cut, on ground (1) that present railway wages are not high compared with wages elsewhere, (2) that "horizontal reduction" would not affect only roads which need it, (3) that wage cuts would run counter to general trend, (4) that railway distress is still a "short-term situation."

Oct. 31—Stock averages decline 1 point, then recover ⅞. Railway stock averages down 1 point, up ¾.

NOVEMBER

Nov. 2—Steel output 57 per cent, against 54. Compares with 48, same date in 1937.

Nov. 3—Baltimore & Ohio's capital reorganization plan approved by Commerce Commission.

Nov. 7—Stock averages rise 1⅞ point, on trading of 1,761,880 shares, largest since Oct. 27.

Nov. 8—Election day. Republican sweep in mid-term State elections; gain of 11 State Governors, 6 Senators, 82 Representatives, but leaving Administration H. R. plurality of 90.

Nov. 9—Stock market averages rise 2¾ points, react ¼; largest recorded gain for day after election. Business 3,098,000 shares, largest since Oct. 21, 1937. Sterling declines 1⅜¢; $13,298,000 gold engaged for import.

Nov. 10—Stock averages up ⅝ point to highest 1938 to date; then down 1¼. Bonds up ⅛ to highest since Jan. 15. Sterling down ½¢ to $4.73 11/16; gold engaged abroad $800,000. Steel output up from 57 per cent to 61, against 41 per cent in same week, 1937.

Nov. 12—Stocks and bonds strong; stock trading 1,005,000 shares, bond trading largest for Saturday since Oct. 23, 1937. Sterling declined ⅞¢ to $4.72¾. Week's automobile output 86,300 cars, against 37,665 a month before and 83,325 for same week in 1937.

Nov. 14—Averages decline 2 points, widest decline since Sept. 23. Sterling down 2½¢ to $4.70 15–16, recovering to $4.71. Gold engaged abroad, $7,400,000.

Nov. 15—Markets uncertain. Federal Reserve Bank reports purchase from New York banks of $14,000,000 United States currency for actual shipment to Europe in October. Sterling falls 1 13–16¢ to $4.69 3–16; lowest since 1933, except for $4.60 in panic day of war crisis on Sept. 28, but recovers to $4.70½.

Nov. 16—Stock averages decline 2¼ points. Steel output up from 61 per cent to 62½, against 35 in the same week of 1937. Steel scrap up 50@75¢.

Nov. 18—Averages down 2⅝ points.

Nov. 21—Stocks slightly lower. Sterling falls to $4.69, lowest of year. Gold engagements in London, $7,619,000.

Nov. 22—Sterling declines 2¾ cents to $4.66 3–16, lowest since October, 1933. Lehigh Valley Railroad announces vote of 80 per cent of bondholders for assent to voluntary readjustment of bond interest, insuring success of plan. John D. Rockefeller Sr.'s estate appraised as containing $27,930,000 bonds, face value, now valued at $24,973,946, and $1,082,067 stocks, face value, now valued at $639,462.

Nov. 23—Steel operations down 1 point to 61½ per cent. Member bank excess reserves increased for week $91,000,000 to $3,350,000,000, exceeding for first time the $3,304,000,000 maximum of Dec. 11, 1935.

Nov. 24—Thanksgiving holiday. Sterling at London fell to $4.64⅞, against previous day's New York closing at $4.66⅜. Bank of France reduces discount rate from 3 per cent to 2½. Bank's gold holdings increase for week 31,455,955,276 francs, due to revaluation of bank's gold, sequestration of the increment by State, than repayment of 27,506,000,000 francs against advances by bank to State, plus 3,849,000,000 left with bank on deposit. Ratio of bank's gold to sight liabilities 60.13 per cent, against 41.11 per cent week before.

Nov. 25—Sterling declines to $4.63⅝. London price of gold in sterling values reaches maximum of history, 149s 10½d per ounce; previous maximum 149.4 on March 6, 1935.

Nov. 26—Gold in London rises further to 150s. Sterling declines to $4.62⅝.

Nov. 28—Sterling suddenly rises 2⅜ cents to $4.65½; franc exchange very strong. Gold in London declines 2½d to 149s 9½d. New York stock averages decline 2⅛ points, with slight recovery.

Nov. 29—Sterling rises ¾ cent to $4.66. British Equalization Fund active. Gold 6½d lower at 149s 3d.

Nov. 30—Stock averages rise 1⅛ point, react ½. Daladier wins fight against general strike order of French labor unions. Franc exchange rises again. Sterling 2 13–16d higher at $4.68 13–16; gold 2d lower at 149.1. Steel operations decline from 61½ per cent to 60½.

DECEMBER

Dec. 1—French stock and exchange market advance, then decline.

Dec. 5—Stock market dull, smallest full day's trading since Sept. 22. Sterling advances 1 7–16¢ to $4.70, up 7⅜¢ in week. Franc up to 2.64¾¢, highest since Nov. 12. United States Treasury announces that $700,000,000 "new money" will be asked for in Dec. 15 financing.

Dec. 7—Sterling declines 1⅝¢ to $4.68. Steel output declines from 60½ per cent to 60, against 27½ per cent year before. *Iron Age* predicts enlarged buying after turn of year.

Dec. 8—Sterling declined 1¼¢ to $4.66⅞, compared with $4.70 Dec. 5 and low of $4.62⅝ since recovery from September war scare. Bank of England issues £30,766,000 fiduciary notes, increasing circulation £6,944,000 while banking reserve increased £23,017,000 and government security collateral decreased £24,030,000. Reserve ratio rose from 29.7 per cent to 44.3.

Dec. 9—Stocks recover fractionally, sterling rises ⅜¢ to $4.67¼.

Dec. 12—Sterling down 1½¢ to $4.66.

Dec. 13—Stocks recover in second million-share day of December. Treasury announces cash applications of $5,732,477,150 for $400,000,000 twenty-seven year 2¾ per cents; allotted, $402,876,700; also cash applications of $3,646,857,200 for $300,000,000 five-year 1⅛ per cents; $328,569,000 allotted.

Dec. 14—Stock average rises 2¼ points; trading 1,965,000 shares, largest since Nov. 10. Bond average up ½ point. Sterling recovers 1¢ to $4.67⅜. Steel output 58 per cent, against 60, but *Iron Age* predicts renewed rise by mid-January at latest.

Dec. 15—Stocks up 1⅛ points; trading 1,798,000 shares. Bond trading largest since Dec. 29, 1937. Sterling up ⅞¢ to $4.68.

Dec. 20—Sterling declines 1½¢ to $4.66¼. Chancellor of Exchequer announces restrictions on foreign lending of British funds, relaxed in February, will be reimposed.

Dec. 21—Moderate weakness stocks and bonds. Sterling declined ⅝¢ to $4.66¾, then recovered 1 13–16 under buying for British Equalization Fund. Steel output down to 53 per cent, against 58. *Iron Age* ascribes drop to desire of companies to keep stocks at minimum over inventory period. Detroit rose from 89½ per cent to 90.

Dec. 22—Stocks and bonds higher. Sterling heavy, $2,500,000 foreign gold engaged.

Dec. 23—Further fractional rise in stock and bond averages. Treasury places $100,000,000 in ninety-day discounted bills at par or higher; thus borrowing without interest, bids being regulated by tax-exemption.

Dec. 28—Stocks strong, trading 2,164,000 shares, largest since Nov. 10. Bonds strong, trading largest since Oct. 19, 1937. "Tax selling" over. Steel output down to 40 per cent of capacity, against 53 per cent week before, 62½ in middle of November, 20 and 79½ respectively in last weeks of 1937 and 1936. *Iron Age* predicts recovery to about 50 per cent in first week of 1939, but expects no strong improvement until latter part of January.

Dec. 29—Markets strong. Stock average advanced 2¼ points; bond average 1–3 point.

Dec. 30—Stock average up ¾ point; bonds ⅜.

Dec. 31—Markets strong. Stock average rises more than ½ point to 108.82, highest of December; comparing with 86 at end of 1937, with 69.70 on March 31, 1938, lowest of 1938, and with 110.74 on Nov. 10, highest of year. Sterling touched $4.64, against $4.99¾ at end of 1937.

PERIODICAL PUBLICATIONS

American Banker
32 Stone Street, New York City.
American Economic Review
Northwestern University, Evanston, Ill.
American Exporter
386 Fourth Ave., New York City.
American Import and Export Bulletin
420 Lexington Ave., New York City.
American Importer
45 East 17th. Street, New York City.
American Insurance Digest and Insurance Monitor
605 North Michigan Ave., Chicago.
Annalist
The New York Times, Times Sq., New York City.
Bankers Magazine
185 Madison Ave., New York City.
Banking
American Bankers Association, 22 East 40th. Street, New York City.
Banking Law Journal
465 Main Street, Cambridge, Mass.
Barron's
44 Broad Street, New York City.
Bond Buyer
67 Pearl Street, New York City.
Business Week
330 West 42nd. Street, New York City.
Commerce and Finance
95 Broad Street, New York City.
Commercial and Financial Chronicle
25 Spruce Street, New York City.
Credit World
1218 Olive Street, St. Louis, Mo.
Financial Age
132 Nassau Street, New York City.

Financial World
21 West Street, New York City.
Fortune
350 East 22nd. Street, New York City.
Harvard Business Review
330 West 42nd. Street, New York City.
Insurance
671 Broad Street, Newark, N. J.
Insurance Advocate
123 William Street, New York City.
Insurance Examiner
1 North La Salle Street, Chicago.
Insurance Law Journal
80 Maiden Lane, New York City.
Journal of American Insurance
230 North Michigan Ave., Chicago.
Journal of Business
5750 Ellis Ave., Chicago.
Journal of Commerce
505–7 Chestnut Street, Philadelphia.
Life Association News
11 West 42nd. Street, New York City.
Magazine of Wall Street
90 Broad Street, New York City.
Nation's Business
Chamber of Commerce of the United States, Washington, D.C.
Spectator
Chestnut and 56th. Street, Philadelphia.
Sphere
Munsey Building, Washington, D.C.
Standard
141 Milk Street, Boston.
System and Business Management
330 West 42nd. Street, New York City.
Trust Companies
2 Rector Street, New York City.
Weekly Underwriter
80 Maiden Lane, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ECONOMICS

American Economic Association, Northwestern University, Evanston, Ill.

American Fair Trade League, 370 Lexington Ave., New York City.

American Home Economics Assn., Mills Building, Washington, D.C.

American Institute of Accountants, 135 Cedar Street, New York City.

American Institute of Weights and Measures, 33 Rector Street, New York City.

American Retailers', Inc., 128 W. 31st Street, New York City.

American Society of Certified Public Accountants, National Press Building, Washington, D.C.

American Statistical Assn., Inc., 722 Woodward Building, 15th and H Streets, N.W., Washington, D.C.

Chamber of Commerce of the United States, 1615 H Street, N.W., Washington, D.C.

Consumers' League of New York, 112 East 19th St., New York City.

Co-operative League of U.S.A., 167 W. 12th Street, New York City.

French Chamber of Commerce, 4 East 52nd St., New York City.

General Society of Mechanics & Tradesmen of New York City, 18 W. 44th Street, New York City.

Home Market Club, 38 Chauncey Street, Boston, Mass.

Institute of Economics, 722 Jackson Place, Washington, D.C.

International Accountants' Society, 3411 S. Michigan Ave., Chicago.

Italian Chamber of Commerce in New York, 80 Broad Street, New York City.

League for Industrial Rights, 40 Wall Street, New York City.

Mellon Institute of Industrial Research, University of Pittsburgh, Pittsburgh, Pa.

National Assn. of Cost Accountants, 385 Madison Ave., New York City.

National Assn. of Credit Men, 1 Park Ave., New York City.

National Assn. of Real Estate Boards, 59 E. Van Buren St., Chicago, Ill.

National Bureau of Economic Re-

SEARCH, INC., 1819 Broadway, New York City.

NATIONAL CONSUMERS' LEAGUE, 156 Fifth Ave., New York City.

NATIONAL ECONOMIC LEAGUE, 6 Beacon Street, Boston, Mass.

NATIONAL ECONOMY LEAGUE, 280 Madison Ave., New York City.

NATIONAL FOREIGN TRADE COUNCIL, 26 Beaver St., New York City.

NATIONAL RESEARCH COUNCIL, 29 W. 39th Street, New York City.

NATIONAL WHOLESALE GROCERS' ASSN. OF THE U.S., 60 Hudson St., New York City.

NEW YORK STOCK EXCHANGE, 11 Wall Street, New York City.

ORDER OF UNITED COMMERCIAL TRAVELERS OF AMERICA, 632 N. Park St., Columbus, O.

AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.

BANKING AND CURRENCY

AMERICAN BANKERS ASSN., 22 E. 40th Street, New York City.

AMERICAN INSTITUTE OF BANKING, 22 E. 40th Street, New York City.

INVESTMENT BANKERS ASSN. OF AMERICA, 531 First National Bank Bldg., 33 S. Clark St., Chicago, Ill.

NATIONAL ASSN. OF MUTUAL SAVINGS BANKS, 60 East 42nd St., New York City.

NATIONAL ASSN. OF SUPERINTENDENTS OF STATE BANKS, Nashville, Tenn.

NEW YORK CLEARING HOUSE ASSN., 77 Cedar St., New York City.

UNITED STATES BUILDING AND LOAN LEAGUE, 333 N. Michigan Ave., Chicago, Ill.

INSURANCE

ACTUARIAL SOCIETY OF AMERICA, 393 Seventh Avenue, New York City.

AMERICAN INSTITUTE OF ACTUARIES, 720 N. Michigan Ave., Chicago, Ill.

AMERICAN INSTITUTE OF MARINE UNDERWRITERS, 99 John Street, New York City.

AMERICAN MARINE INSURANCE SYNDICATES, 99 John Street, New York City.

ASSOCIATION OF CASUALTY & SURETY EXECUTIVES, 60 John St., New York City.

ASSOCIATION OF LIFE INSURANCE PRESIDENTS, 165 Broadway, New York City.

CASUALTY ACTUARIAL SOCIETY, 90 John Street, New York City.

NATIONAL ASSN. OF LIFE UNDERWRITERS, 11 W. 42nd Street, New York City.

NATIONAL ASSN. OF MUTUAL CASUALTY COS., 60 E. 42nd Street, New York City.

NATIONAL ASSN. FOR TRAVELERS' AID AND TRANSIT SERVICE, 1270 Sixth Ave., New York City.

NATIONAL BOARD OF FIRE UNDERWRITERS, 85 John Street, New York City.

NATIONAL BUREAU OF CASUALTY & SURETY UNDERWRITERS, 60 John St., New York City.

NATIONAL COUNCIL OF COMPENSATION INSURANCE, 45 East 17th St., New York City.

NATIONAL FIRE PROTECTION ASSN., 60 Batterymarch, Boston, Mass.

SURETY ASSN. OF AMERICA, 60 John Street, New York City.

TRAVELERS' AID SOCIETY, INC., 144 East 44th St., New York City.

DIVISION XI

AGRICULTURE AND ALLIED INDUSTRIES

CONDITIONS IN AGRICULTURE

By Arthur P. Chew

Assistant to the Director of Information, Department of Agriculture

FARM INCOME

Cash farm income in the United States from crops, livestock, and livestock products in 1938, and from Government payments under the Agricultural Adjustment Act, was approximately $7,600,000,000, or about 12 per cent less than the corresponding combined total in 1937. All the important products shared in the decline, with wheat and cotton showing the greatest percentage decrease. It seemed likely that the cash income would show a gradual increase in the final quarter of the 1938–39 marketing season. Increased marketing of livestock and of some other products promised to offset the effect of lower prices. More improvement was in prospect in the farm income than in the price level. Agricultural earnings began to decline in the second half of 1937, after four successive years of gain. Nevertheless, the cash farm income for the full year 1937, with Government payments included, and with an allowance also for farm products consumed in farm homes, was about $10,000,000,000, as compared with about $9,300,000,000 in 1936, and about $5,280,000,000 in 1932. For the full year 1938 the Government forecasts an increased income from farm marketings and Government payments, accompanied by little change in farm production expenses. Hence the net cash income may increase materially.

FARM PRICES

Prices received by farmers for their products by midsummer of 1938 had declined about 25 per cent from the level that prevailed in the summer of 1937; in the second half of the year, for the average of all commodity groups, there was a slight improvement. In October, however, the average farm price of grains was only 60 per cent of the average of the pre-war period (1909–14); of cotton and cottonseed only 72 per cent; of fruits only 70 per cent. Truck crop prices were 108 per cent of the pre-war level; prices of meat animals 111 per cent; dairy product prices 107 per cent; prices of chickens and eggs 124 per cent. The index for all groups was 95 per cent of the pre-war level.

Prices paid by farmers for commodities used in farm production and farm living were only 8 per cent lower in midsummer of 1938 than in midsummer of 1937. In September the index number for prices paid by farmers was 121 per cent of the pre-war level, as compared with 130 per cent in the corresponding month of the previous year. In purchasing power farm commodities in September had only 79 per cent of the pre-war level, though 23 per cent more than they averaged for the full year 1932. In 1937 the purchasing power index of farm commodities was only two points lower than in 1929, in which year the cash farm income was $12,000,000,000.

FARM ACREAGE AND PRODUCTION

Acreage of the principal crops for harvest in 1938, according to the October crop report, was 332,825,000, as compared with 330,139,000 in 1937, and a 10-year average (1927–36) of 333,162,000 acres. The area in cotton was about 8,000,000 acres less than in 1937; this decrease was more than offset by an increase in the acreage of food and feed crops. The largest increase was in wheat. Farmers sowed about 7,000,000 acres more to that crop than they did in 1937. Nearly all crops returned good yields. The yields averaged about 8 per cent less than in the record year 1937 but they were greater than in any other season since 1920, and 9 per cent more than the average for the pre-drought period 1923–32.

Production of nearly all food crops was large. The combined output of wheat, rye, rice, and buckwheat was 25 per cent above the average for the period 1927–36, and 14 per cent above the 10-year average for the period just prior to the recent drought years. Production of most crops, except cotton, corn, and oats, was larger than in 1937; it was above the 10-year average for practically all crops except cotton. In cotton there was a sharp reduction from the previous year. The October report indicated a crop of 12,212,000 bales, as compared with the record crop of 18,946,000 bales in 1937. The carry-over of American cotton at the beginning of the 1938–39 season was very large. Added to the carry-over from the previous year the 1938 crop put the total world supply of American cotton in running bales at about 25,700,000, as compared with 24,600,000 bales the previous year and with an average of about 22,000,000 bales for the five crop years ended July 1, 1937. The United States Government was holding more than 7,000,000 bales as collateral for loans to growers.

Wheat production according to the October report was 940,000,000 bushels, the third largest on record. This crop, with the carry-over of 154,000,000 bushels of old wheat, brought the supply to about 1,110,000,000 bushels. In 1937 the "disappearance" of wheat for food, feed, seed, and wastage, in the continental United States, was 700,488,000 bushels.

Corn production as estimated in October was 2,459,316,000 bushels, as compared with 2,644,955,000 bushels in 1937 and with a 10-year (1927–36) average of 2,306,150,000 bushels. Total production of feed grains, about 95,000,000 tons, was unusually large in relation to the number of livestock on farms. Some fruit crops, notably grapefruit, oranges, and pears, promised high production records. The production of fruits such as apples, peaches, pears, grapes, cherries, plums, prunes, apricots, and cranberries was substantially lower than in 1937.

WEATHER CONDITIONS

Weather conditions during the year indicated that the recent long drought period had about spent itself. Meteorologists looked for more abundant rainfall in immediate future years, though they observed that weather history repeats itself and that relatively dry periods will come again. Rainfall in most areas from the eastern Great Plains eastward was sufficient for the crops; in fact, it largely restored the subsoil moisture. There were no widespread harmful deficiencies in rainfall. Marked improvement came in the normally dry western plains in the early part of 1938. In that region the subsoil moisture was still below normal. All the States in 1938 had above normal rainfall in the spring except the States in a narrow belt in the extreme South to southern New Mexico, and a limited northeastern area and in a few localities in the far West. Florida had a spring drought which damaged truck and citrus fruit, but the citrus groves improved rapidly with abundant moisture later in the season. Widespread showers in the Corn Belt about the middle of July were timely and helpful and heavy rainfall in the Eastern States in July corrected the moisture deficiency there. About 80 per cent of the United States had above normal precipitation in the first half of 1938. The average for the country was 15.73 inches or 12 per cent above normal.

AGRICULTURAL MARKETING

With industrial activity and consumer incomes in the United States expected to be substantially higher in 1939 than they were in 1938, the home outlook demand for agricultural commodities was encouraging. Continued recovery was in prospect. Government contributions to consumers tended to strengthen the demand for foods. The foreign outlook, however, was not favorable. Competing foreign supplies of agricultural commodities seemed likely to be very large. There was further general stiffening of foreign trade restrictions against American farm products, offset to some extent by trade agreements with the United Kingdom and Canada. The Munich pact had unfavorable implications. It decreased the importance of Czecho-Slovakia as an export outlet and did not provide compensating gains in the countries to which Czecho-Slovakia ceded territory. Most of Czecho-Slovakia's textile industries went to Germany. Under the new control they will probably not take as much American cotton as they did before. Restoration of our trade with Europe to pre-depression levels is improbable; yet no other area can absorb our crops in quantities sufficient to make up for the decline in our trade with Europe.

At the beginning of the marketing season for crops produced in 1938, supplies of wheat, cotton, dairy products, livestock, poultry, and vegetables were larger than in several years. Supplies of fruits and of eggs were somewhat larger than in the previous season. Cotton and grains were in the least favorable position. There was some prospect of increased cotton consumption by domestic cotton mills but the consumption of American cotton by foreign mills showed no tendency to increase materially. Foreign cotton production for the 1938–39 season was less than in 1937–38; about enough less, in fact, to offset the increase that occurred, because of reduced consumption, in the carry-over of foreign cotton. World supplies of commercial cotton were about 51,400,000 bales, three per cent larger than in 1937 and 29 per cent larger than the annual average for the preceding decade. In fact, 1938 was the third consecutive year in which world supplies of cotton climbed to a new high record.

The outlook for wheat exports was not favorable. As a result largely of increased production in the importing countries, world wheat imports were about one-third lower than in 1929. Competition for the limited wheat market in Europe was extremely keen in the surplus wheat countries. The United States Government embarked on a limited wheat export subsidy program with the object of retaining our share in the world's wheat trade. The volume of it will be lower even if we keep the share of the trade that we had in the 1920's. Secretary Wallace announced the Department of Agriculture would aim at keeping our wheat export trade in the neighborhood of 100,000,000 bushels annually. He pointed out, however, that if all nations used export subsidy measures simultaneously, these measures would be mutually self-defeating. He advocated an international understanding and cooperation among wheat exporting countries to build up an international ever-normal granary plan. Economists in the Department of Agriculture estimated that the present world wheat area of about 285,000,000 acres is 5 per cent more than is necessary, with average yields, to produce a crop equal to the 10-year (1927–36) average annual disappearance of about 3,775,000,000 bushels.

In tobacco the export outlook was more favorable, though some developments threatened our leading position. Probably, according to the Department of Agriculture, our proportion of foreign tobacco consumption will decline, though the exports of flue-cured tobacco may not decline in quantity. The United Kingdom, which formerly took about 50 per cent of our flue-cured exports, now gives a preference to tobacco from the British Dominions and India. China expanded its tobacco production prior to the hostilities with Japan. Meantime, the disturbed situation in the Orient handicaps our tobacco export trade. Exports of tobacco from the 1938 crop will be lower than the exports from the 1937 production. Conditions in the tobacco industry as a whole, however, were comparatively favorable. It is noteworthy, too, that tobacco is the only important farm export the export proportion of which has not declined greatly in recent years. Consumption of tobacco both at home and abroad continues to increase.

In November the Department of Agriculture stated that the outlook for flax was for higher percentage returns than from spring wheat; that large supplies and relatively low prices of certain grains would encourage liberal feeding of livestock; that the number of cattle on farms would be slightly larger in 1939 than in 1938; that the domestic demand for home products would increase; that in 1940, if the 1939 corn crop is satisfactory, the number of pigs raised may be as large as the average for the five years prior to the 1934 drought; that sheep numbers will increase during the next few years, though not necessarily the lamb crop; that the average production of all fruits during the next five years will be larger than the average for the last five; that the acreage and production of truck crops, which in 1938 exceeded all previous records, may be slightly lower in 1939; that farmers are preparing to increase rapidly the number of milk cows; and that the poultry situation will be helped in 1939 by increases in consumer incomes.

FOREIGN TRADE IN AGRICULTURAL COMMODITIES

Export trade in farm products affects agricultural prosperity more than its volume might indicate. This is because American agriculture grew up to supply the world market as well as the home market. When crops produced for export can not be sold, or can be sold only at a very low price, prices decline in the domestic market. In the period 1931–35 the proportion of our agricultural production that we exported averaged only 8 per cent, as compared with 12 per cent in the five-year period 1925–29. In 1921 the proportion exported was 17 per cent. Our agricultural exports decreased steadily from 1927 to 1937. The fiscal year 1938, however, brought a reversal in the trend, agricultural exports increasing 22 per cent in value, as compared with those of the fiscal year 1937. In value they were the largest since the fiscal year 1931. In quantity they were 41 per cent larger than those of 1936 and 1937. On the other hand the imports of competitive agricultural products decreased by almost one-third; they declined steadily throughout the fiscal year 1938. These opposite trends resulted largely from our increased crop production in 1937. Agricultural economists had foretold this development. They had pointed out that the return to more normal weather conditions in this country would mark the disappearance of the so-called agricultural import problem. That is exactly what occurred.

In the drought period this country imported wheat and corn in unusually large quantities. In the fiscal year 1938 it exported 100,000,000 bushels of wheat, the largest wheat export total since the fiscal year 1932. Exports of corn during the fiscal year 1938 totaled 104,000,000 bushels. This was the largest export trade in corn from the United States, with only two exceptions, since 1900. There was a similar though more gradual transition toward increased exports of animal products such as poultry and lard. As already noted, however, the conditions that affect our agricultural exports may be less favorable in 1939.

Agriculture's chief problem, in fact, is to find means of disposing of what it produces in excess of domestic requirements. One fundamental element is the level of foreign buying power. Foreigners can buy our products only with dollar exchange, which they can get in only three ways: (1) by selling goods and services to the United States; (2) by borrowing money in this country; or (3) by shipping gold. Our reciprocal trade agreements program, with its notable success in 1938 in the conclusion of trade agreements with the United Kingdom and Canada, lays a basis for an expansion of our farm export trade through carefully considered reductions in unnecessarily high import duties.

There is no evidence that the program causes excessive agricultural imports. Of our total imports of competitive agricultural products in 1937 (excluding sugar), less than 9 per cent consisted of products on which the duties had been reduced in reciprocal trade agreements. Increased industrial activity in the United States will increase our imports of industrial raw materials. These and other developments may help to make some headway against the resistance that farm export trade encounters through the world-wide growth of economic nationalism. In exceptional circumstances, the Secretary of Agriculture declares, as for example when other governments energetically encourage the sale of their supplies in restricted foreign markets, the United States Government may have to encourage exports too. In a measure the problem may be one of reducing the costs of production and improving the marketing system, so that American products can compete more successfully in world markets.

FARM ADJUSTMENT PROGRAM

In 1938 the Government began operations under the new Agricultural Adjustment Act. This was a coordinating and integrating measure based on the experience gained first with the Agricultural Adjustment Act of 1933 and then with the Soil Conservation Act of 1936. Under the first Agricultural Adjustment Act the Government entered into contracts with farmers for concerted crop adjustments, made benefit payments derived from processing taxes, and in addition sponsored various marketing agreements with producers and distributors. In 1936 the United States Supreme Court invalidated the production-control and processing-tax features of the measure. Thereupon, Congress enacted the Soil Conservation and Domestic Allotment Act, which emphasized conservation practices rather than production control. Temporarily, this measure seemed adequate, because successive droughts had reduced the surpluses of grains and meats. In 1937 the return of more normal growing weather produced new surpluses. Agitation began among the farmers for a new farm act and the outcome was the Agricultural Adjustment Act of 1938.

The new act, which provides for benefit payments from the Treasury, has five separate titles. Title I continues and supplements the national soil conservation program with its authorized annual appropriation of $500,000,000, prescribes bases for acreage allotments, regulates the division of farm payments among landlords, tenants, and sharecroppers, and provides a formula for apportioning the available funds among the different farm commodities. Title II principally authorizes the Secretary of Agriculture to prosecute farm freight rates cases before the Interstate Commerce Commission. Title III has to do with loans, parity payments, consumers' safeguards, and marketing quotas; it gives formulas for calculating loan rates and defines the conditions under which farmers may vote whether or not to use marketing quotas. Title IV covers cotton pool participation trust certificates. Title V establishes the Federal Crop Insurance Corporation with a capital stock of $100,000,000 and with authority to insure wheat producers against loss in years from droughts, floods, insect infestations, plant diseases, and other unavoidable causes. An amendment to the Work Relief and Public Work Relief Appropriation Act (Pub. Res. No. 122, approved June 21, 1938) appropriated $212,000,000 additional for price-adjustment payments to farmers.

In numerous addresses Secretary Wallace emphasized the democratic character of the act and showed its connection with urban welfare. Consumers, he declared, have a common interest with farmers in the stabilization of supplies and prices, and in the creation of an ever-normal granary against years of drought. Also, he pointed out, the farm problem is essentially urban as well as rural. Agriculture's surplus problem, he said, is not of its own making. Expansion during the World War left it with surplus capacity; our change to the creditor position reduced farm exports; our high post-war tariffs provoked tariff retaliation and added to the country's export difficulty; new farm competition developed in Brazil, Argentina, Canada, and Australia; Europe struggled toward agricultural self-sufficiency; and many American industries maintained high inflexible prices out of line with farm prices. Then came the depression, which reduced the buying power of American consumers, lessened the power of the cities to absorb excess rural population, and temporarily caused a movement of city people back to the land.

In these circumstances, the Secretary declared, farmers could not deal effectively with the surplus problem, with the partial loss of the export market, with the rural congestion that results from industrial depression and unemployment, and with the associated tremendous changes in the demand for agricultural products. Further decommercialization of agriculture, he said, would be a backward step. On the other hand, the elimination of weak producers through ruthless competition would simply transfer rural distress to the cities. He concluded there was no practicable alternative to the concerted readjustment of the farm output through measures that would allow the farmers to retain their farms.

In spite of the late start under the new act, farmers adjusted their cotton acreage and production, but the law came too late to help the wheat farmers, since most of the wheat crop was already in the ground. Acreage-adjustment programs became effective in 1938 for cotton, corn, and tobacco. Cotton and tobacco growers voted for marketing quotas. The Government made nonrecourse loans available on cotton, wheat, and corn, in accordance with a formula provided in the legislation. In emergencies, Secretary Wallace declared, crops such as cotton, wheat, and corn may require loans for the support of prices without regard for the need for storage. He emphasized the fact, however, that such loans are highly speculative and risky particularly for the export crops and that commodity loans at rates out of line with supply and demand conditions simply afford an opportunity for our foreign competitors to undersell us. They put the Government gradually into possession of an increasing proportion of the total commodity supply and into control of the marketing machinery. That need not happen, the Secretary said, if we follow a rational policy in determining loan rates.

Agitation continued for the diversion of basic agricultural commodities into foreign trade under some two-price system. On minor crops and on wheat this method has limited application already. As a complete substitute for the present program, the Secretary declared, it could not succeed. Export diversion and the two-price system on a large scale with prices raised to a high level in the domestic market, as a means of absorbing losses on commodities exported at low prices, would be disastrous within a year or two, both for agriculture and for other groups in the nation. Large Government payments on the domestically consumed proportion of the farm output, coupled with unlimited production, would lead to foreign discrimination against our farm exports and would cause surpluses to pile up continuously. The Secretary urged that low-income groups within the United States, rather than foreign consumers, should have first consideration if any general two-price arrangement becomes necessary.

Under the existing program acreages of the major depleting and conserving crops and desirable soil-building and conservation practices can be distributed geographically so as to combine crop adjustment with soil conservation and efficient farming.

There are individual county, state, and national allotments of the major crop acreages. These allotments in years of normal weather will satisfy the domestic market, provide for the available export trade, and establish reserves in the ever-normal granary. In years of excess production farmers can take a second step under the act. They can store their crops and get a commodity loan on them from the Government. If the granary overflows even then, they can vote marketing quotas on themselves. Conversely, the act through its ever-normal-granary feature avoids scarcity in years of drought. Other features of the national farm program provide for marketing agreements, crop insurance, tenant purchase operations, rehabilitation loans, submarginal land retirement, and the development of new and expanded uses for agricultural products.

LAND UTILIZATION PROGRAMS

In a comprehensive land program the Department of Agriculture deals jointly with land in farms and with land not in farms. It considers the economic and social aspects of land use problems along with the physical aspects. There are three complementary purposes: (1) to maintain the income of farmers from efficient properly adjusted production; (2) to improve the land-tenure system and give land operators more security in their jobs; and (3) to safeguard resources. Farm adjustments under the A.A.A. program are the mainstay of the first objective. Along with it goes an extensive program, local and regional as well as national, for soil conservation. Cooperating farmers limit the acreage of the soil-depleting crops, work toward soil-building goals, and carry out good farming practices. They cooperate also with Government agencies in extensive local operations, in which each farm may be treated as part of a regional land use pattern.

Soil conservation advances also through demonstration projects in which the Department enters into an understanding with any public agencies that may be involved and into cooperative arrangements with private land owners. It deals also with flood control through land treatment. Under the Flood Control Act of 1936 and amendments to it in 1937 and 1938, Congress coordinated engineering for flood control under the Secretary of War with land treatment for the same purpose under the Secretary of Agriculture. Other land use legislation provides for the development of water facilities particularly in the arid and semiarid West, and for cooperative farm forestry.

Through the Farm Security Administration the Department of Agriculture endeavors to alleviate rural poverty. It offers them financial aid and technical guidance. Small loans to farm families that can not obtain credit from any other source and expert help in farm and home management have brought about remarkable improvements. As of June 30, 1938, outstanding loans of this type totaled $209,366,707. Such loans had been made to 647,198 farm families. They carried interest at 5 per cent and were repayable in from one to five years. Though by commercial standards the borrowers were poor credit risks, the program had proved surprisingly sound financially, and more than $51,415,000 had been repaid; many borrowers had made substantial payments in advance. Moreover, 230,000 assisted families had increased their average net worth by $252 or 42 per cent. They had doubled their consumption of home-produced meat, milk, and eggs and stored away 63,000,000 quarts of fruits and vegetables.

Another program administered by the Department of Agriculture helps worthy tenants toward farm ownership. Authority and funds come from the Bankhead-Jones Farm Tenant Act. Tenants and part owners rent half the land in farms in the United States. In the fiscal year 1938 the Farm Security Administration made tenant-purchase loans in 333 counties. It will make similar loans in some 393 additional counties in the fiscal year 1939. The available funds ($10,000,000 for the fiscal year 1938 and $25,000,000 for the fiscal year

1939) have been allotted among the States and Territories on the basis of their farm population and the prevalence of tenancy. Borrowers use the money to buy family-sized farms which in general they can operate with the labor available in the family. Another Farm Security Administration program helps farm people in worn-out or otherwise submarginal areas to get new farm homes elsewhere on better land.

As a means of coordinating the action programs required by the farm legislation of recent years, the Department of Agriculture arranged to unify four principal lines of work: (1) forming of plans and programs to guide the entire group of agricultural, conservation, and marketing services to farmers and to the general public; (2) execution of marketing work such as crop and livestock reporting, commodity grading and standardization, and supervision of the great commodity markets; (3) execution of all physical land use programs that involve operations by the Government on farm lands; and (4) research in the field of agricultural and industrial technology, in which category come various efforts to develop new or improved uses for agricultural products and byproducts. In this way the Department established over-all planning and coordinated administration, with related activities grouped together and with overlapping and conflict of purposes reduced.

In a joint memorandum the Department and the land-grant colleges agreed specifically to recommend that each state extension service should set up in each agricultural county an agricultural land use planning committee as a subcommittee of the existing county agricultural program building committee. Most of the States did so. Usually the new committees consisted of farm people, forest landowners in many counties, the county agent, at least one member of the A.A.A. administration committee, the rural rehabilitation supervisor, and any other state or Federal official who has responsibility for the administration of land use programs. In making this arrangement the cooperating Federal and state agencies kept three principles in mind: (1) farmers should participate in forming and executing their programs; (2) administrative alignments should develop foresight and avoid unnecessary duplication of work; and (3) each program should be treated as part of a more comprehensive general land use program, in harmony with the total requirements and logical priorities of the enabling laws.

COTTON AND GRAIN CROPS

By Joseph A. Becker

Crop Reporting Board, Department of Agriculture

COTTON PRODUCTION

A cotton crop of 12,008,000 bales of 500 pounds gross weight was produced in the United States in 1938. This crop was only about two-thirds as large as the record crop of 18,946,000 bales produced in 1937, and was 10 per cent less than the average crop of 13,201,000 bales. (Average acreage, yield and production, when mentioned, relate to the 10 years, 1927–36 inclusive.) Cotton production in 1938 was featured by high yields per acre on a very small acreage. Relatively low prices for cotton at planting time combined with the reduced quotas under the Agricultural Adjustment Administration program to hold the acreage to the lowest in this century. The generally favorable growing season over the major portion of the cotton-producing area resulted in a per-acre yield a fourth more than average and exceeded only by the record yield of 1937.

Heavy spring rains, which came somewhat earlier than usual, delayed cotton planting in most of the Cotton Belt. Considerable replanting was necessary in many areas and in some localities fields became quite grassy. Cool, wet weather conditions during the early part of the growing season threatened to cause considerable damage from boll weevil. Hot, dry weather during July and August, however, checked the weevil infestation and the crop developed quite rapidly in most of the Cotton States except those along the Atlantic Coast, particularly Virginia and North Carolina. In the Cotton Belt as a whole the months of September and October were very favorable for the maturing of the crop which was harvested earlier than usual under almost ideal weather conditions.

Texas as usual ranked first in the production of cotton in 1938, with 3,125,000 bales in comparison with 5,154,000 bales in 1937 and the average crop of 3,997,000 bales. Mississippi was second with 1,715,000 bales, 2,692,000 bales in 1937, and the average production of 1,462,000 bales. In Arkansas, production in 1938 was 1,340,000 bales in comparison with 1,904,000 bales in 1937, and the average of 1,182,000 bales. Alabama followed with 1,080,000 bales in 1938 and 1,631,000 bales in 1937, and the average of 1,159,000 bales. Georgia produced 857,000 bales in 1938. The average production in that State was 1,152,000 bales and in 1937 1,500,000 bales were produced. Production in Louisiana of 676,000 bales compares with 1,104,000 bales in 1937 and the average of 655,000. South Carolina produced 650,000 bales in comparison with 1,023,000 in 1937 and the average of 798,000.

In Oklahoma production in 1938 was 570,000 bales. In 1937 that State produced 773,000 bales and the average production is 903,000 bales. Tennessee increased its rank in 1938 with 487,000 bales in comparison with 661,000 bales in 1937 and the average production of 436,000 bales. North Carolina fell to tenth place with 400,000 bales which was much below the 1937 crop of 780,000 bales and the average crop of 710,000 bales. California on a greatly reduced acreage produced 423,000 bales in comparison with 738,000 bales in 1937 and an average of 225,000 bales. The production of 337,000 bales in Missouri in 1938 was considerably below the 1937 production of 404,000 bales but was half again as much as the average of 223,000 bales. Arizona produced 196,000 bales in comparison with 313,000 in 1937 and the average of 127,000 bales. New Mexico had 95,000 bales in 1938, 163,000 in 1937 and an 89,000 bale average. Florida had 25,000 bales in comparison with 40,000 in 1937 and an average of 31,000 bales. Virginia's production of 15,000 bales was only about a third of the 1937 crop of 43,000 bales and the average crop of 40,000 bales.

COTTON YIELDS

The yield per acre of 226.8 pounds for the United States for 1938 was second only to the record 1937 yield of 266.9 pounds per acre. The average yield per acre is 179.8 pounds. The high yields per acre resulted in part from the favorable season and in part from the use of better lands, increased fertilization, and more intensive cultivation that go with reduced acreage. Yields per acre were exceptionally high in the Mississippi Delta States. In Mississippi the yield of 316 pounds per acre was half again as large as the average of 207 pounds, but still below the 1937 record of 372 pounds. Louisiana had 264 pounds compared with the average of 199 and the 1937 figure of 337 pounds. Arkansas' yield of 269 pounds per acre in 1938 compared with the 1937 yield of 298 pounds and the average of 193 pounds. Tennessee had 295 pounds in comparison with the 320 in 1937 and the average of 222 pounds. Missouri had an exceptionally favorable year producing at the rate of 438 pounds per acre in comparison with 346 pounds in 1937 and the average of 296 pounds. The yield in Texas was also favorable, 164 pounds per acre in comparison with the 1937 yield of 197 pounds and the average of 140. Oklahoma's yield was 158 pounds in comparison with 156 pounds in 1937 and the average of 131 pounds. Alabama's yield per acre was 243 pounds compared with 290 in 1937 and the average of 194 pounds. South Carolina, with 248 pounds, was slightly above the average of 231 pounds, while in 1937 the yield was 289 pounds. North Carolina is the only major State with yields below average, the 1938 yield of 223 pounds is only about two-thirds of the 1937 yield of 338 and only about four-fifths of the average of 274 pounds. In Virginia the yield of 179 pounds was exceptionally disappointing; in 1937 the yield was 312 pounds, and the average 277. New Mexico yields were 459 pounds compared with 490 in 1937 and the average of 391. Arizona's yield was 458 pounds compared with 501 in 1937 and the average of 355 pounds. The California yield per acre was 602 pounds in 1938, 570 pounds in 1937, and the average 468 pounds.

COTTON ACREAGE

The acreage of cotton harvested in the United States in 1938 was 25,346,000 acres which was about one-fourth less than the 34,001,000 acres harvested in 1937 and nearly 30 per cent less than the average of 35.496,000 acres. Not since 1900, when 24,886,000 acres were harvested, has the acreage been as low as in 1938. Abandonment of acreage in 1938 from all causes was 3.1 per cent, amounting in all to 798,000 acres. This included some acreage which was removed by farmers after July 1 in order to qualify for full payments under the 1938 Agricultural Adjustment Program. The acreage of cotton in cultivation on July 1 was 26,144.000 acres in comparison with 34.471,000 acres on the same date in 1937 and the 10-year average of 37,380,000 acres. The decrease in acreage planted from 1937 was general throughout the States and averaged 22 per cent for the United States. In California, the reduction was 43 per cent. Tennessee and North Carolina decreased only 18 per cent but most of the other States decreased slightly more than 20 per cent. The 1938 acreage in cultivation on July 1 compared with the 10-year average, by States, is as follows: Texas. 9.534.000 acres and 14,571,000 acres; Mississippi, 2,680,000 and 3.559.000; Arkansas, 2.444,000 and 3,083,000; Alabama, 2,160,000 and 3.014.000; Georgia, 2,128,000 and 2,873,000; Oklahoma, 1,804.000 and 3,485,000; South Carolina, 1,272,000 and 1,758.000; Louisiana, 1,245,000 and 1,649,000; North Carolina, 884,000 and 1,302,000; Tennessee, 799,000 and 984.000; Missouri, 373.000 and 375,000; California, 356,000 and 230.000; Arizona, 206,000 and 174,000; New Mexico, 104,000 and 117.000; Florida, 90,000 and 112,000; and Virginia, 41,000 acres and 71,000 acres. Included in the totals shown by States were 21.000 bales of Arizona Egyptian cotton produced on 44,000 acres of land; and 3,100 bales of Sea Island cotton produced on 33,000 acres in Georgia and Florida.

VALUE OF COTTON PRODUCTION

The total value of lint and seed from the 1938 cotton crop based on prices paid to producers up to Dec. 1 was $635,766,000 compared with $960,554,000 for the 1937 crop and $947,768,000 for the 1936 crop. The 1936 and 1937 prices represent local prices as of the 15th of each month from August to July, weighted by the quantity sold each month. The values stated do not include Agricultural Conservation Program payments. Of the 1938 value, $517,892.000 relates to the lint and $117,874,000 to the seed. While practically all the lint is sold, a portion of the cottonseed is retained on the farm for seed, feed and fertilizer. The price (to Dec. 1) of cotton lint for the 1938 crop was 8.60 cents per pound compared with the season average of 8.41 cents for the 1937 crop and 12.33 cents for the 1936 crop. Cottonseed price per ton in 1938 was $22.08 in comparison with the season average price of $19.51 in 1937 and $33.27 in 1936.

GRAIN CROPS

Grain production in 1938 in general was featured by crops slightly above average produced on an acreage somewhat lower than average. Generally speaking, the growing season was favorable and yields exceeded the average. Corn production was 10 per cent above average; oats, 1 per cent; barley, 7 per cent; and grain sorghums, 13 per cent. Crops which were distinctly above average were: wheat, 24 per cent; rice, 23 per cent; and rye, 51 per cent. On the other hand, the buckwheat crop was 22 per cent below average. The total production of grain crops used primarily for human food—wheat, rye, buckwheat, and rice—was 1,045,000,000 bushels, which is somewhat larger than the combined production of slightly less than 1,000,000,000 bushels in 1937 and about one-fourth above the average of 840,000,000 bushels.

WHEAT

The 1938 wheat crop of 930,801,000 bushels was about 6 per cent above the 1937 crop of 875,676,000 bushels and nearly 24 per cent above the average. The crop is well above the quantity utilized in recent years for domestic consumption, and there is a balance of over 225,000,000 bushels for export and increase in stocks.

The harvested acreage of wheat of 70,221,000 acres compares with 64,422,000 acres in 1937 and the average of 55,325,000 acres. The total acreage of wheat sown, including some duplication of spring wheat sown on abandoned winter wheat acreage, was 79,870,000 acres in 1938, or 1½ per cent below the record acreage of 81,072,000 acres in 1937 and considerably above the average of 67,769,000 acres. About 12 per cent of the acreage seeded was abandoned but the 70,221,000 acres harvested has been exceeded only in 1919 when 73,700,000 acres were harvested. In 1937, 64,422,000 acres of wheat were harvested and the average acreage is 55,325,000 acres.

While only 70 to 85 per cent of the wheat crop is sold off of farms, the valuation of production at the sale price gives a measure of the importance of this crop to the agricultural industry. At the season average price to Dec. 1 of 55.2 cents per bushel, the value of the 1938 wheat crop would be $514,231,000, which is considerably less than the value of $842,288,000 of the 1937 crop for which the season average price was 96.2 cents.

WINTER WHEAT

Winter wheat for harvest in 1938 was sown under very favorable surface moisture conditions although sub-soil moisture in the Great Plains Area was generally deficient. In all, 56,355,000 acres were sown, or about 2 per cent less than in 1937. The winter was mild but there was some frost damage in the spring coupled with other unfavorable factors, and yields fell slightly below average although abandonment was considerably less than average. The 1938 yield per harvested acre was 13.8 bushels compared with the 1937 yield of 14.6 bushels and the average of 14.5 bushels. The production of 686,637,000 bushels was not much different from the 1937 crop, but was more than 25 per cent above the average of 546,396,000 bushels.

SPRING WHEAT

Production of spring wheat in 1938 was estimated at 244,164,000 bushels, nearly 29 per cent larger than the 1937 crop of 189,852,000 bushels and more than 18 per cent larger than the average of 206,494,000 bushels. The acreage of spring wheat seeded of 23,515,000 acres was little different from the 23,416,000 acres seeded in the spring of 1937. Spring wheat condition was very promising in the early summer. The crop was threatened by semi-drought in June in the Dakotas, by grasshopper damage, and by an incipient attack of stem rust. The rust proved less destructive than anticipated owing partly to dry weather during maturity and partly to the increased percentage of acreage planted to rust-resistant varieties.

The production of durum wheat in the three States for which separate estimates are made — Minnesota, North Dakota, and South Dakota—was 40,445,000 bushels, a production much larger than the 1937 crop and about 1 per cent above average. The acreage sown to durum wheat was 3,856,000 acres, a considerable increase over 1937 but about 8 per cent below average. Abandonment was less than in recent years and 3,545,000 acres were harvested in comparison with

2,786,000 acres in 1937 and the average of 3,620,000 acres.

Production of spring wheat other than durum was 203,719,000 bushels compared with 161,881,000 bushels in 1937 and the average of 166,410,000 bushels. Seedings totaled 19,659,000 acres in 1938 in comparison with 20,202.000 acres in 1937. Loss from seedtime to harvest was lighter in 1938 than in 1937 and 16,965,000 acres were harvested compared with only 14,658,000 acres in 1937 and the average acreage harvested of 14,424,000 acres.

RYE

The 1938 rye crop of 55,039,000 bushels, with the exception of the 1935 crop of 58,597,000 bushels, is the largest since 1924 but far below the record production of 100,986,000 bushels harvested in 1922. In 1937 production was 49,830,000 bushels and the average production is 36,454,000 bushels. Most of the increase in rye production in comparison with 1937 was due to much larger crops in the important rye-producing States of North Dakota, South Dakota and Nebraska, which more than offset substantial decreases in most of the other Corn Belt States. Montana rye production in 1938 was much larger than in 1937, but much smaller crops were obtained in New York and Pennsylvania. In all, 3,979,000 acres were harvested in 1938 in comparison with 3,846,000 acres in 1937 and the average of 3,140,000 acres. The United States yield per acre of 13.8 bushels was considerably above the average yield of 11.3. Yields per acre were higher than average in all the important producing States.

The acreage seeded to rye for all purposes in the fall of 1937 was 6.671,000 acres compared with 7,371,000 acres in the fall of 1936 and the average seeding of 5,698,000 acres. A considerable part of rye seedings are intended for use as pasture and cover crops and not for grain.

The preliminary season average price of 34.3 cents per bushel applied to the total production gives a value of only $18,881,000 which is much lower than the value of production of $34.157.000 in 1937 when the season average price was 68.5 cents per bushel.

BUCKWHEAT

Production of buckwheat in the United States has been tending downward over a long period. The production of 6,682,000 bushels in 1938 was on a low level in spite of some increase in acreage. In 1937, 6,764,000 bushels were produced, and the average production is 8,569,000 bushels. The acreage harvested was 453.000 acres in comparison with 426,000 acres in 1937, and the average of 542,000 acres. At the preliminary season average price of 55.5 cents per bushel, the crop had a value of $3,708.000 in comparison with $4,530,000 in 1937 at a season average price of 67 cents.

RICE

The rice crop of 1938 of 52,303,000 bushels was the second largest rice crop produced in the United States and only 2 per cent below the all time record crop of 53,372,000 bushels produced in 1937. The average production is 42,452,000 bushels. Good yields characterized the season of 1938. A relatively large acreage, 1,068,000 acres, was harvested compared with 1,088,000 acres in 1937 and the average of 906,000 acres. The preliminary season average price of rice is 59 cents in comparison with the 1937 average price of 65.8 cents. The value of production on the basis of these prices was $30.848,000 in 1938 and $35.132.000 in 1937.

FEED CROPS

Combined production of the four feed grains—corn, oats, barley and grain sorghums—in 1938, expressed in tons to allow for different weights per bushel, totaled 96.918.000 tons or about 4 per cent less than in 1937. The 1927–36 average is 89.000.000 tons and the pre-drought (1923–32) average is 101,000,000 tons. The greater part of the production of these crops is fed on farms with only a relatively small quantity moving into commercial channels. Farmers' incomes from these crops, therefore, come largely from the livestock to which these crops are fed. While production in 1938 was not unusually heavy, there was an unusually large carry-over of grain on farms. Livestock numbers were low and the supply of feed grains per unit of livestock and poultry was as large as in any year since 1921.

CORN

The 1938 corn production for all purposes was 2,542,238,000 bushels, 4 per cent less than the 1937 crop of 2,651,284,000 bushels but 10 per cent above the average production of 2,306,157,000 bushels. These estimates include the grain equivalent of corn used for silage, forage, hogging off, and pasturing, in addition to grain corn husked and picked. Substantial acreage reductions in the leading Corn Belt States where corn acreage quotas were established by the Agricultural Adjustment Administration account for the decrease in the total 1938 corn acreage from that of 1937. The total acreage planted to corn was 93,257,000 acres in 1938 and 96,342,000 acres in 1937, while the average planting is 102,640,000 acres. Abandonment of acreage in 1938 was much less than in 1937. The total acreage of corn harvested for all purposes in 1938 was 91,792,000 acres, compared with 93,741,000 acres in 1937 and the average of 100,259,000 acres.

The planting of corn began very early in 1938 but was interrupted by frequent spells of wet weather and much corn was planted later than usual. The growing season was generally favorable except that hot, dry weather in August materially reduced the prospects in South Dakota, Nebraska, Kansas and parts of adjoining States. The late season weather was exceptionally favorable for maturing and harvesting the corn crop. Production of corn was above average in all important States except the Great Plains States from North Dakota to Texas. The weather was very favorable in Ohio, Indiana, Illinois, Iowa and Minnesota, where the increasing acreage of corn hybrids also contributed to higher yields per acre.

The production of corn harvested for grain in 1938 was 2,277,259,000 bushels, compared with 2,350,299,000 bushels in 1937 and the average of 1,969,675,000 bushels. Corn silage was produced on 4,172,000 acres in 1938, compared with 5,160,000 acres in 1937 and the average of 5,070,000 acres. The production was 33,475,000 tons compared with the average production of 31,830,000 tons. Only about 5,514,000 acres were harvested for forage or grazed by livestock compared with 7,098,000 in 1938 and the average of 12,103,000 acres.

A measure of the important role played by the corn crop in the agricultural industry is given by the application of the season average price at which corn is sold to the total production. On this basis, the value of production of the 1938 crop was $1,279,711,000 in comparison with a similar figure for the 1937 crop of $1,379,616,000. The average price for the 1938 crop was 50.3 cents per bushel compared with 52 cents in 1937.

OATS

The 1938 production of oats was 1,053,839,000 bushels or about 9 per cent less than the 1,161,612,000 bushels harvested in 1937 but 1 per cent larger than the average crop of 1,042,461,000 bushels.

The acreage of oats seeded in 1938 was 36,615,000 acres compared with 37,295,000 acres in 1937. The early season was generally favorable for a heavy plant growth and considerable lodging occurred in the more important States. Continued wet weather caused losses from rust, lodging, and sprouting in the shock in the States from Iowa and Minnesota eastward. On the other hand, the crop turned out better than in recent years in Nebraska, the Dakotas, and Montana, and although some acreage was cut early to escape grasshopper damage, the loss from drought and insects was much less than in 1937. In all, 35,477,000 acres were harvested, slightly above the harvested acreage of 1937 of 35,256,000 acres and 7 per cent less than the average of 37,961,000 acres. The yield per acre in 1938 was 29.7 bushels as compared with 32.9 bushels in 1937 and the average of 27.1 bushels.

If valued at the season average

price at which oats were sold, the value of production of the 1938 crop would be $229,895,000 as compared with $349,395,000 similarly computed for the 1937 crop. The preliminary season price of 21.8 cents per bushel in 1938 is only about three-fourths of the 1937 season price of 30.1 cents per bushel.

BARLEY

The 1938 barley crop of 252,139,000 bushels exceeded the 1937 crop of 220,327,000 bushels by 14 per cent and the average production of 234,895,000 bushels by 7 per cent. The 1938 crop is the sixth largest crop of barley ever harvested. The crop made splendid progress from seedtime to June 1 when it showed rank growth and loss from rust damage. By July 1 the prospect was still good in all important barley-producing States except North Dakota and California. During July the situation improved materially in both the Dakotas and in Nebraska, but showed further decline in the Pacific Northwest and in California. The ultimate yield per acre of 24.0 bushels compares with 22.1 bushels in 1937 and the average yield of 21.0 bushels.

If valued at the season average price at which barley was sold, the value of production of the 1938 crop would be $94,153,000 and of the 1937 crop $118,994,000. The preliminary season average price for the 1938 barley crop was 37.3 cents per bushel, and for the 1937 crop 54 cents.

GRAIN SORGHUMS

The production of grain sorghums for all purposes in 1938 totaled 100,816,000 bushels, 3 per cent larger than the 1937 crop of 97,679,000 bushels and 13 per cent larger than the average production of 89,331,000 bushels. The early part of the season was very favorable for grain sorghums throughout the producing area which centers in the western Great Plains. High temperatures and shortage of soil moisture during August were unfavorable for proper development, but September and October weather was ideal for maturing and harvesting the crop.

The total acreage harvested for all purposes was 7,792,000 acres compared with 7,476,000 acres in 1937 and the average of 7,246,000 acres. The yield was 12.9 bushels in comparison with the 1937 yield of 13.1 bushels and the average of 12.4 bushels. About 45 per cent of the total grain sorghum acreage was used for forage in 1938 compared with about 38 per cent in 1937. Equivalent grain production from this acreage is included in the estimated production. While most of this crop is fed to livestock, a measure of its importance is indicated by the value of production of $42,441,000 in 1938 and $47,647,000 in 1937. The preliminary season average price for 1938 was 42.1 cents per bushel and in 1937 the season average price was 48.8 cents.

THE DAIRY INDUSTRY

By L. S. Richardson

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GENERAL

Farmers in general did not fare as well in the year 1938 as in the year 1937, but dairy farmers had improved their cash income by $2,000,000 at the end of the first ten months of the year. This was the sixth year of steady increase in cash income from the sale of dairy products since the low point touched in 1932. Cash income from dairy products during the first ten months in 1938 was $1,243,000,000.

Commenting on the long-term outlook, the Bureau of Agricultural Economics points out "the underlying shifts in agriculture that seem likely to occur." These include changes between enterprises and increases in the acreage of legumes and improved pastures, which indicate long-time prospects for increases in dairy production. Increases in population, and an increased per-capita consumption as the result of education and further recognition of the value of dairy products in the diet, are also expected.

COW NUMBERS AND MILK PRODUCTION

The number of milk cows (cows and heifers two years old and over kept for milking purposes on farms) on Jan. 1, 1938 was estimated to be 24,902,000 head, or 7.5 per cent less than the excessively high number at the beginning of 1934. The decline since 1934 appears to have been checked, however, and there is evidence that farmers are preparing to increase the number of milk cows and other cattle. In 1938 the number of milk cows per 1,000 population was 192 as compared to 213 in 1934.

Milk production for 1938 was estimated at about 108,000,000,000 pounds, or 5 per cent more than for 1937. This represents a record high production, and is nearly 3 per cent above the previous high in 1933.

MANUFACTURED DAIRY PRODUCTS

Total production of the principal manufactured dairy products in 1938, in terms of milk equivalent, was 10 per cent greater for the first 10 months than in the same period in 1937. Condensed milk was the only product in which there was a decrease. Apparent consumption of these products, however, was only 1.6 per cent greater than in the previous 10-months period.

Total production of creamery butter during the period from January to October, inclusive, was 1,550,436,000 pounds, an increase of 10 per cent over the same period in 1937. Butter prices were fairly stable throughout the year. Cheese production in the first 10 months of 1938 was 633,327,000 pounds, or an increase of 11 per cent over the same period in 1937. Production of evaporated milk in the first 10 months of 1938 was 1,870,000,000 pounds, or an increase of 9.6 per cent over the same period in 1937; whereas production of condensed milk was 213,146,000 pounds, or 2.4 per cent less than in 1937. Trade reports estimate that production of commercial ice cream in 1938 was less than in 1937, the record high year.

STORAGE STOCKS AND IMPORTS

On a milk-equivalent basis, supplies of the principal dairy products in cold storage on Nov. 1 were 67 per cent greater than a year earlier, and 48 per cent in excess of the 5-year average (1933–37) for Nov. 1.

Butter in storage Nov. 1 amounted to 194,000,000 pounds, compared with 99,000,000 pounds a year earlier, and the 5-year average of 119,000,000 pounds. Stocks of American cheese in cold storage Nov. 1 totaled 115,000,000 pounds, 18,000,000 more than a year earlier, and 15,000,000 more than the 5-year average. Evaporated milk stocks in the hands of manufacturers Nov. 1 totaled 344,000,000 pounds, the heaviest on record for the month; the 1938 stocks were 41 per cent greater than those of 1937. Imports of butter were unusually light in 1938; imports of cheese were the largest since 1931 but 20 per cent less than the 1925-29 average.

CONSUMPTION OF DAIRY PRODUCTS

In recent years about 42 per cent of the total milk produced has been consumed as fluid milk or cream; 30 per cent in cities and villages, and 12 per cent on farms where it was produced. Estimated consumption of fluid milk and cream in cities and villages rose from 1934 to 1937, recovering most of the decline that occurred in the early 30's. Since reaching the recovery peak, however, consumption of fluid milk and cream has declined slightly.

The trade output or consumption of creamery butter during the first 10 months of 1938 was 1,399,551,000 pounds, an increase of 1.3 per cent over the same period in 1937. Cheese consumption was the highest on record in 1937, and during the first 10 months of 1938 it had increased 5.3 per cent over the same period in 1937. Total consumption of evaporated milk was about 1 per cent less than a year earlier, and condensed milk consumption was about 7 per cent lower. The decline in evaporated and condensed milk seems only temporary, however, since consumption of these products in recent years has increased in relation to fresh milk and cream.

CONTROL AND REGULATORY PROGRAMS

The dairy industry continued to benefit from several Government activities in 1938, particularly through the establishment of marketing agreements for fluid milk and cream and the purchase of surplus dairy products for relief distribution.

The Federal Surplus Commodities Corporation purchased butter in the early part of 1938 and again in the latter part of the year, the total purchases by Nov. 12 amounting to 28,308,487 pounds. In addition, the Commodity Credit Corporation loaned funds to the Dairy Products Marketing Association for carrying on a similar purchasing and stabilizing program. This association, which is an organization of producer cooperatives, bought up 115,000,000 pounds of butter during 1938. These butter buying programs had an important effect in stabilizing prices.

In addition to the butter purchases, the Government purchase program removed from the regular market about 23,000,000 pounds of cheese, 73,000,000 pounds of evaporated milk, 74,000,000 pounds of dry skim milk.

Unfavorable supply and price conditions in the fluid-milk areas stimulated interest in marketing agreements in 1938, and Federal programs were put into effect in four additional markets. There are now Federal licenses, agreements, and orders in 24 fluid-milk markets.

Joint effort by the States and the Federal Government to eradicate cattle diseases continued in 1938. The tuberculosis-eradication program, which had been in effect since 1917, was greatly expanded in 1934 by the allotment of additional Federal funds. Since July, 1934 more than 730.000 tuberculous cattle have been eliminated. The Bang's disease program, initiated in 1934, has resulted in the removal of 1,600,000 reactors.

DAIRY HERD IMPROVEMENT

Members of dairy herd-improvement associations have gradually increased the efficiency of their herds by eliminating the low-producing unprofitable cows and increasing the number of high-producing cows in the herd. During the last 10 years, association members have improved the average production of their herds, until now it is 320 pounds of butterfat per cow per year or about 30 pounds more than it was a decade ago. This increased efficiency means an increased income to association members of approximately $8,000,000 a year.

More cows were enrolled in these associations in 1938 than ever before; the 1,106 associations in operation the first of the year were testing 23.701 herds consisting of 558,993 cows. The largest number on test previously was 510,714 in 1931.

In connection with the association testing program, the state extension services are reporting production records of all females in these herds to the Bureau of Dairy Industry for the purpose of tabulating the breeding performance of the herd sires. To date nearly 2,000 bulls in these association herds have been proved by comparing the production records of their daughters with the records of the daughters' dams. About half of the sires that have been proved so far have raised production in the herds in which they were used, and the other half have failed to make any improvement.

DISEASES OF PLANTS

By H. A. Edson

Bureau of Plant Industry, Department of Agriculture

APPLE SCAB

The year 1938 was characterized by the early appearance of such diseases as downy mildew on various crops and weeds; leaf rusts on grasses and small grains; early maturing perithecia of apple scab; and the general prevalence of leaf curl and related diseases of various shrubs and trees, and of fire blight of pears and apples.

Perithecia of apple scab (*Venturia inaequalis*) discharging ascospores were reported from Missouri Feb. 15, and from Illinois and Pennsylvania Feb. 24. As the season advanced scab proved difficult to control both because of its early appearance and the unfavorable conditions for applying timely control treatments.

DOWNY MILDEW

Tobacco downy mildew (*Peronospora tabacina*) was observed in old seed beds in Georgia Feb. 2 on very young seedlings. It subsequently appeared in all tobacco-growing regions from Florida to Massachusetts and westward to Kentucky and Indiana, where it had previously been observed, and it was reported for the first time in Canadian seed beds. It did not, however, act as a limiting factor in tobacco production as in 1937 since, in anticipation of the outbreak, growers put out seed beds in excess of their former needs and also practiced direct control measures. Aside from the cost of the additional seed beds and treatments, the principal effect of the disease was to delay planting ten to 14 days until the seedlings recovered from the attack, a circumstance which, because of the peculiarities of the season, was on the whole an advantage in several sections.

Onion downy mildew (*Peronospora destructor*) was present on topset onions in several localities in New York by April 19, which is the earliest recorded date of its appearance in that State. It continued to develop and spread to commercial onion fields in New York and New England where it was destructive throughout the season.

Spinach downy mildew (*Peronospora effusa*) was present in fall and winter spinach plantings in eastern trucking areas. In Long Island fields it rendered susceptible varieties unmarketable, and it caused noteworthy losses in Texas.

POTATO DISEASES

Potato late blight (*Phytophthora infestans*), another downy mildew famous in history as the cause of the Irish famine in the nineteenth century, was unusually severe throughout the season on both early and late plantings throughout the east from Florida to Maine and westward to the Rio Grande Valley of Texas in the south, and to Minnesota in the north. Late blight is usually present annually, though not always destructive, in the cool humid potato growing centers of the northeast, but it rarely spreads westward over the wide area invaded in 1938. The disease attacks not only the growing plants, but causes rot of the tubers which may appear normal when placed in storage but nevertheless carry the infection into the bins where it later develops as a dry rot. Sometimes a large proportion of the production of infected fields is destroyed in this way. Serious losses from this cause were reported taking place in the 1938 crop.

A potato disease causing wilt of stolons and a ring rot of the tubers, which first appeared in Quebec, Canada, in 1931 and in Maine in 1932, and is reported as a bacterial wilt and tuber rot of undetermined cause has been identified as the bacterial ring rot (*Bacterium sepedonicum*) of Europe. The disease is seed-borne and apparently subject to control through rigid seed certification. It has been the cause of considerable loss in the provinces of Quebec and New Brunswick in Canada and on certain farms in Maine. It has been reported also from Florida and Pennsylvania in fields planted with Maine seed, and from Colorado and Wyoming. Another potato disease of undetermined cause, known as blue stem, is reported from West Virginia, Pennsylvania, New York, and adjacent territories. A condition designated as hair sprout that disastrously affects the yield has developed in southern plantations in certain lots of Red River Valley seed.

GRAIN DISEASES

The early appearance of leaf rust (*Puccinia rubigo-vera tritici*) of wheat in Texas has been mentioned. This disease was generally prevalent in the southern fields throughout the season, and favored by frequent rains, heavy dews, and cool nights, it extended northward through the Mississippi Valley and on westward into the spring wheat region much beyond its usual range. In the central Great Plains area wheat was defoliated before the heads developed with consequent reduction in yield and much light-weight shriveled grain.

Stem rust (*Puccinia graminis tritici*) of wheat also appeared early and remained a threatening factor through the season in both winter wheat and spring wheat regions. It did considerable damage locally in southern California and in Texas and in scattered localities in other winter wheat areas. Rather general prevalence of low night temperatures, however, prevented its rapid spread until the crop matured and much of the threatened destruction was averted. Spring wheat, on the whole, was less damaged by stem rust than in 1935 or in 1937, but the disease was almost universally present in spring plantings extending westward into dry areas far beyond its normal range. It caused heavy losses locally in North Dakota and adjacent areas on susceptible varieties. Fortunately much of the acreage in the most heavily invaded sections was planted to the highly stem-rust-resistant varieties, Thatcher, Renown, and Apex.

Wheat scab (*Gibberella saubinetii*) was prevalent throughout central and northern Illinois and southeastern Minnesota. Cercosporella foot rot (*Cercosporella herpotrichoides*) and other forms of foot rot were reported as unusually severe in Idaho and Washington. The Northwest also suffered the most severe outbreak of stripe rust (*Puccinia glumarum*) which has occurred in many years. Black chaff (*Bacterium translucens undulosum*) and septoria glume blotch (*Septoria nodorum*) were more prevalent than for several years in the central Mississippi Valley regions.

Crown rust (*Puccinia coronata*) of oats was prevalent in practically all oat growing regions. It appeared early and was a cause of much loss.

Loose smut (*Ustilago avenae*) and covered smut (*U. levis*) of oats were generally present wherever the grain was grown, and took heavy toll where seed treatment was neglected. Barley smuts (*U. hordei* and *U. nuda*) also assumed importance and caused material losses. Loose smut (*U. tritici*) of wheat prevailed in more than usual frequency, but bunts (*Tilletia tritici* and *T. levis*) continued to decline in line with the tendency of recent years.

The wheat nematode (*Anguina tritici*) is becoming more prevalent in sections of Virginia, North Carolina, South Carolina, Ohio, and elsewhere and appears to be a potential menace of some importance.

COTTON

A striking feature of a survey of seedling diseases of cotton covering plantings in Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, and Texas, was the high prevalence of anthracnose (*Glomerella gossypii*) as the causal organism. Cultures made from the diseased seedlings yielded this fungus as the predominant organism in 240 out of 344 localities. Other fungi frequently recovered included *Fusarium moniliforme*, *Fusarium* spp., and *Rhizoctonia solani*. A companion survey of boll rots later in the season through the same general area, also checked by culture methods, again yielded *G. gossypii* as the most prevalent cause of decay.

ALFALFA

Alfalfa black stem (*Pleospora rehmiana*) was very destructive in old alfalfa fields in Kentucky and several other localities in the Ohio-Mississippi Basin. Many fall sown fields in the same region were injured by sclerotinial stem rot (*Sclerotinia trifoliorum*).

SPINACH

A new leaf disease of spinach unknown elsewhere, caused by one of the so-called white rusts (*Albugo occidentalis*), has become established in the Crystal City region of Texas in recent years and is now universally distributed throughout the area. Unless a resistant variety can be speedily developed very heavy losses in this important spinach section appear inevitable.

MELONS AND FRUITS

In the Imperial Valley of California a new biologic form of muskmelon powdery mildew (*Erysiphe cichoracearum*) has appeared which is able to attack the mildew resistant cantaloupe varieties that have been developed during the past decade, and which until 1938 were practically free from mildew.

A disease of peach trees and choke cherries of undetermined cause but suspected to be of virus origin, and referred to as "X-disease", is prevalent and apparently spreading in Connecticut, Massachusetts, and New York.

TREES

The campaign for the control and if possible the eradication of the Dutch elm disease (*Ceratostomella ulmi*) has progressed satisfactorily during the year. While there have been some extensions of the areas of known infestation, they have all been adjacent to territory previously known to be infested and may be accounted for either as previously established but undetected occurrences or as limited advance into new territory. Pennsylvania has been added to the States in which the disease is known to exist, but the infected area is just across the Delaware River from New Jersey where the disease has been serious from the outset.

The white pine blister rust continues to extend its range slowly and has invaded pine forests in northern California but experience has demonstrated that control of *Ribes* spp. in the vicinity of pine stands acts as an adequate protection against the disease.

INSECT PESTS AND PLANT QUARANTINE

By Lee A. Strong

Chief, U. S. Bureau of Entomology and Plant Quarantine

ORGANIZATION OF BUREAU ACTIVITIES

In order that more attention could be given to unifying the research work of the Bureau of Entomology and Plant Quarantine, the position of Special Research Assistant to the Chief of the Bureau was created. The special educational and demonstrational work on the control of the screwworm, which was started in 1936, was discontinued Feb. 15, 1938. This campaign is believed to have made available to farmers in the areas where screwworms occur adequate information regarding methods of control. The administration of work in connection with outbreaks of grasshoppers and Mormon crickets has been separated from the research divisions under which it was formerly carried on and referred to a division of the Bureau dealing exclusively with control projects. The eradication and control of plant pests was continued under a program expanded by means of emergency relief funds but somewhat curtailed last year as a result of reduced allotments. The same situation prevails with work carried on with details from Civilian Conservation Corps.

GRASSHOPPERS

A general intensification of grasshopper infestation affecting all States west of the Mississippi River, except Louisiana, was revealed by the 1937 fall survey of grasshopper conditions. In all, 25 States were involved, and the indications were that at least double the amount of poison bait distributed in 1937 would be required to cope with the situation. In the spring of 1938, the infestations developed about as had been forecast although increased moisture over the eastern half of the infested regions afforded abundant wild food, and thus tended to reduce the invasion of crops by the insects. Dry weather in the western part of the infested area led to very heavy flights of grasshoppers late in July and early in August and much damage was done in western North Dakota, western South Dakota, and eastern Montana. In cooperation with approximately 24 States directly concerned in efforts to protect growing crops from the grasshopper scourge, the Department distributed over 200,000 tons of poison grasshopper bait, which was made available to farmers early in the season of 1938.

MORMON CRICKETS

A similar control program was carried on in 10 Western States for the protection of crops against attack by Mormon crickets. The control of this insect involved the application of poison dust over areas of some 150,000 acres in extent. Barriers, consisting of 300 miles of metal strips, 300 miles of oil-on-water, and 60 miles of trench, were used to prevent spread of these destructive crickets.

EUROPEAN CORN BORER

Complete local destruction of sweet corn by the European corn borer occurred in 1938 in parts of Lucas County, Ohio, with a great increase in numbers of the insect in northwestern Ohio and northeastern Indiana. Serious damage by the corn borer was recorded for the first time in Burlington County, N. J. A heavy increase in numbers of the insect was also observed in southern New England.

ARMYWORMS

Concomitant to an unusually wet summer, widespread outbreaks of both true and fall armyworms occurred throughout the Eastern and Southern States. An unusual feature of these outbreaks was the invasion of the New England States to the Canadian boundary late in the season.

HESSIAN FLY

Except for the northern half of Indiana, northwestern Ohio, and southeastern Pennsylvania, Hessian fly populations were low or moderate during the spring and summer. In northern Indiana and northwestern Ohio marked increases in numbers were observed.

CHINCH BUGS

Although increases in numbers of the chinch bug were observed in scattered areas of Iowa, Missouri, and Oklahoma, the great general outbreak of 1934-35 has definitely subsided.

VETCH WEEVIL

In September, 1938 the presence of the vetch weevil, previously known in the United States only from the South Atlantic seaboard, was discovered in samples of domestic vetch seed received in cleaning mills from northern Clackamas County, Ore. A survey resulted in the discovery that infested vetch seed also had been received at cleaning mills from points in Washington State located about 25 miles north of Portland, Ore. Similarly infested seed was also received from points in Oregon lying 25 miles south of Portland.

CODLING MOTH

The most striking feature of the work of the 1937 season was the very favorable results obtained in the Middle West by the use of nicotine-bentonite for the control of the codling moth. The tank-mix nicotine-bentonite developed by the Vincennes, Ind. laboratory has been found to be especially effective.

PEACH BORER CONTROL

Investigations dealing with the use of ethylene dichloride emulsion and other materials for peach borer control were broadened during the fall of 1937 and spring of 1938 to include experiments in Illinois and New York, in comparison with experiments in Georgia. The results with ethylene dichloride were outstanding, both as to borer control and safety for use on trees. Ethylene dichloride is effective at much lower soil temperatures than is paradichlorobenzene, greatly increasing the length of the season for fall treatments in the Northern States.

PHONY PEACH AND PEACH MOSAIC DISEASES

The phony peach disease, concerning which a concentrated control campaign is being conducted in cooperation with the 13 Southeastern States, is showing a marked reduction throughout the infected areas and the disease has apparently been eradicated from some of the lightly infected States. The peach mosaic disease is the subject of a similar vigorous cooperative campaign in seven Southwestern and Intermountain States. Growers are assisting in the activities.

PLUM CURCULIO

Dichlorethyl ether at the rate of 10 to 33 cc per gallon of water proved to be effective against the larvae of plum curculio in the soil. The higher strength was also fairly effective against pupae and recently transformed adults in the soil.

DRIED FRUIT INSECTS

The use of shade cloth over drying peaches in California reduced dried-fruit-insect populations to 9 per cent. Former infestations ran as high as 45 per cent.

JAPANESE BEETLE

The area of continuous infestation increased 2.500 square miles. In the older infested territory the populations were decidedly lower than last year. Heavier infestation, with severe injury, occurred in northeastern Maryland, northern Delaware, eastern Pennsylvania, north-central New Jersey, and in New York City area. It was found that the more finely defined particles of lead arsenate were more effective in control of larvae than were the coarser particles. Soil treatment in the Chicago area materially reduced the populations.

REPELLANCY OF ARSENICALS TO WIREWORMS

Arsenicals present in bran or whole-wheat baits rendered these baits relatively unattractive to wireworms, in proportion to the solubility of these materials. Water containing sodium arsenate entered the bodies of the wireworms carrying the arsenic with it. Such entry was not effected by way of mouth, anus, or tracheae but through the integument of the larval body, which was found to be pervious both to water and to the sodium salts of arsenic. Arsenicals were rejected by the wireworms, even though food pellets containing such materials were burrowed into. It was concluded that the sensory control of the closing mechanism in the buccal cavity of the wireworms may account for the rejection of the arsenic.

INSECTICIDES CONTAINING ROTENONE

Insecticides containing rotenone are highly specific in their responses. Although they have been proved to be effective when used alone or in combination with certain spreaders, wetters, or activators against some insects, including the Mexican bean beetle, certain species of cabbage worms, pea aphid, turnip aphid, pea weevil, raspberry fruitworm, tobacco flea beetle, red spider, and several species of thrips attacking greenhouse-grown cucumbers and tomatoes, they have not proved effective against certain other common species of insects, including the celery leaf tier, the tomato fruitworm, tomato pinworm, tomato or tobacco hornworms, southern armyworm, zebra caterpillar, pepper weevil, vegetable weevil, sweetpotato weevil, cutworms, and leafhoppers. Experiments have also demonstrated that the addition of oil emulsions to sprays or dust mixtures containing derris or cube increases greatly the degree of toxicity of these insecticide combinations when directed against such resistant species of insects as the harlequin bug and the squash bug. The addition of vegetable oil emulsions to dust mixtures containing rotenone have rendered these combinations effective against the pea aphid over a wider range of relative humidities than when the oil emulsion was omitted.

GLADIOLUS THRIPS

Sprays containing tartar emetic and brown sugar gave excellent control of the gladiolus thrips and was noninjurious to gladiolus foliage.

TOMATO FRUITWORM

Extensive experiments in California against the tomato fruitworm revealed that the most satisfactory insecticide to use against this pest was a dust mixture composed of equal parts by weight, of cryolite and talc, in three applications.

BLACK STEM RUST CONTROL

During 1937 an intensive survey was made of all uncultivated lands in areas totaling more than 45,000 square miles in the 17 States cooperating in the barberry-eradication program. As a result, 2,823,472 barberry bushes were destroyed on 2,375 properties in the 13 States comprising the original control area, and an additional 62,332,636 bushes were destroyed on 2,621 properties in Missouri, Pennsylvania, Virginia, and West Virginia, where systematic eradication programs were authorized in 1935.

WHITE PINE BLISTER RUST CONTROL

During 1937 this disease spread southward from Oregon into the valuable sugar pine forests of northern California for a distance of 120 miles and extended its range in southeastern Montana to within 19 miles of Yellowstone National Park. Control was accomplished on 2,469,356 acres of which 1,626,045 acres consisted of initial work and 843,311 acres were areas covered one or more times previously. This work involved the destruction of 75,062,268 *Ribes* bushes and required 501,773 man-days of labor.

BLACK HILLS BEETLE

This beetle has occurred in epidemic numbers on many areas in the east-central part of the Rocky Mountain region during the last four years, killing hundreds of thousands of pine trees. A continuous battle has been waged against the beetle, resulting in the control of many of these outbreaks. During the past season, on the recommendation of the Bureau, some 45,000 infested trees were treated on Federal, state, and private land.

THE SOUTHERN PINE BEETLE

A widespread outbreak of the southern pine beetle, extending from the Eastern Shore of Maryland and Virginia to North Carolina, developed during 1936, 1937, and the early part of 1938, following a deficiency in annual rainfall. Millions of board feet of merchantable pine timber were killed. With the return of above-normal precipitation in 1938, resulting in more vigorous tree growth, it has been found that the epidemic is dying out rapidly in many areas.

DUTCH ELM DISEASE

The area now more or less continuously infected with Dutch elm disease covers approximately 5,450 square miles. There was a decrease in the number of trees found in 1937. Isolated infected trees were located at Athens, Ohio, and Wylie's Ford, W. Va.

GYPSY MOTH

The work in the older infested area and in the barrier zone has continued without very material change. The control work in the Pennsylvania area has apparently reduced infestation.

COTTON BOLL WEEVIL

Favorable growth conditions and lack of serious insect damage permitted the production in 1937 of the largest yields per acre and largest crop of cotton ever produced in the United States. Because of the low fall population, fewer than the average number of weevils entered hibernation in the fall of 1936, and the number of weevils present in the fields early in the season of 1937 was considerably below average in most of the Cotton Belt. The low initial population, combined with hot and dry weather during the critical period over much of the central Cotton Belt, prevented the infestation from building up to injurious numbers until late in 1937. The survival in hibernation cages during the winter of 1937-38 varied in different localities. At Florence, S.C. and Tallulah, La. the 1938 survival was only about one-tenth as great as in 1937. At Tifton, Ga. the survival was higher and at College Station, Tex. about equal to that of 1937. Emergence from hibernation also continued late into the season of 1938. At Florence, S.C. emerged weevils continued to migrate to trap plots of cotton until July 6, and 34 per cent of the total weevils were taken after June 15 or after squares were present. Excessive rains early in the season of 1938, followed by prolonged dry spells and cold weather during planting season, resulted in a great deal of late-planted cotton. This condition was followed by rainy weather, which was favorable for weevil development and interfered with control, and on July 1 the prospects were that the boll weevil would cause more damage in 1938 than for many years.

THE COTTON LEAF WORM

This was first reported in southern Texas on June 5, 1937, about two weeks later than in 1936. Spread to the north and east from this area was comparatively slow. Infestations were found in northern Florida and southern Alabama a month before they appeared in Louisiana or Mississippi and were apparently due to a separate migration of moths from the Tropics.

SCREWWORM FLIES

Investigations of substances for protecting wounds of animals from infestations of screwworms and the larvae of other blowflies have revealed a number of organic chemicals that can be safely uesd in crystalline form for the treatment of wounds on livestock. These new compounds appear to be considerably more effective in destroying young larvae and preventing reinfestation of wounds than any yet discovered.

FOREIGN PARASITE INTRODUCTION

Continued importations were made of parasites of the Hessian fly, European corn borer, pea weevil, vetch weevil, and the lima bean pod borer from Europe and of the oriental fruit moth from Japan and Chosen. Work on pine-shoot moth and larch case bearer parasites in Europe has been completed and that upon European corn borer and oriental fruit moth is now limited to the collection of particular species on a relatively small scale. The principal new activities consist of an extended survey on the spruce sawfly in northern Europe and large-scale collections of pink bollworm parasites in Chosen.

INSECTICIDES

The continued study of pyrethrum has led to another new method of estimating the active constituents. The presence of nornicotine and anabasine was demonstrated in various species of *Nicotiana*. The methods for analysis of rotenone-bearing roots were put on an official basis. Many new organic compounds were studied as insecticides, with dibenzothiophene, thiocoumarin, and phenothioxin receiving small field tests against codling moth larvae. The particle-size distribution of several important insecticides was studied, and a definite influence of this characteristic on toxicity to some insects was demonstrated. Extended studies to develop stickers for phenothiazine and nicotine peat were carried on. Careful comparisons using goldfish have shown that toxicity depends on the position of the substituent in isomeric nitrophenols and halogenated phenols. Significant progress was made in the development of micromethods for estimating phenothiazine, arsenic, and nicotine in spray residues.

BEEKEEPING

In the study of resistance to American foulbrood, it was found that colonies headed by line-bred queens of strains showing resistance made a better performance when inoculated with American foulbrood than did colonies headed by queens of any one of these strains mated with drones from the other strains. An easily prepared culture medium for *Bacillus larvae,* the causative organism of American foulbrood, has been devised and possesses distinct advantage over media previously used by the Department. Growth of *B. larvae* has been obtained with it when the number of spores present averaged only 1 per cc, whereas in the past the minimum number to obtain growth in culture has been held to be 50,000 per cc. The way now seems open for making single spore cultures, for pure strain studies. With the new medium, cultures of *B. larvae* have even been made directly from infected honey, a procedure that points to the development of a method simpler and more practical than any used in the past for detecting the presence of this organism in honey.

PLANT QUARANTINES AND REGULATORY ORDERS

During the year 20 foreign plant quarantines and regulatory orders, eight quarantines applying to the Territories of Hawaii and Puerto Rico, and four miscellaneous regulatory measures were enforced.

FISHERIES

By Charles E. Jackson

Deputy Commissioner of Fisheries, Department of Commerce

GENERAL

The fishing industry maintained approximately the same general economic level during 1937 as in the preceding year. Unit values of some fishery commodities increased as compared with those for 1936, while others decreased. Outstanding among the commodities increasing in value were many in the group of processed products; however, prices for numerous varieties of frozen fish and some fresh market fish decreased. The values of the production of canned fishery products and fishery by-products were the largest of any year on record.

TECHNOLOGICAL INVESTIGATIONS

The technological section of the Division of Fishery Industries carries on investigations dealing with the production, utilization, and preservation of fishery products. Such studies include the principles of canning, salting, smoking, dehydration and refrigeration, the nutritive value of fish and shellfish, and the manufacture and uses of fishery by-products. During 1938 further methods of fish cookery and canning were developed, studies made of fish spoilage, rancidity in fish, chemistry of fish proteins, tests for determining the relative freshness of cod and pollock, bacterial decomposition of fresh fish, disinfectants for sponges, preparation and extraction of oils from fish livers and salmon cannery waste, manufacture of fish meal for animal feeding and fish feeding, and studies of the mineral constituents of fishery products were made.

BIOLOGICAL INVESTIGATIONS

Biological fishery investigations consist of studies of commercial fisheries to aid in tracing or foretelling changes in abundance of important food fishes, the management of interior waters to maintain a supply of food and game fishes, and the development of modern methods of water farming as applied to the shellfish industry. Although each of these programs is based on long range investigations, progress recently achieved in several distinct fields of research will serve to illustrate the practical applications of fishery science.

Intensive studies of Atlantic Coast fishes show that many shore fishes are migratory to a degree that necessitates coordinated state action to protect them from unwise exploitation. For example, since most of the weakfish caught in the north have lived as juveniles in the south, want of proper protection in the nursery areas adversely affects the fishery throughout the entire range. Besides weakfish, the scup, striped bass, and other species have been found to migrate widely and to be subject to fisheries in several areas. Tagging of flounders, on the other hand, shows that many populations are restricted to limited areas, and therefore will be benefited by conservation measures applied locally. A significant result of recent tagging on the New England and Middle Atlantic Coasts is the finding that a large percentage of the total catch of certain species is made by sportsmen.

Demonstration areas for effective management of game fishes have been set up in various national forest areas. Studies carried out in these natural laboratories are providing information on the size of fish and intensity of stocking that will produce maximum returns from the several billion young fish planted annually by state and Federal hatcheries. Other studies have developed improvements in hatchery practices in feeding and selective breeding and are cutting down fish loss through hatchery disease.

Recent important contributions to shellfish culture are the yearly predictions of the time and intensity of spawning and setting in the Long Island Sound area and the development of chemical means for the control of the starfish, an oyster enemy which annually does damage amounting to several million dollars. Intensive studies of conditions on the oyster beds now make it possible for oystermen to plant shells at such a time that a maximum set of young oysters will be collected. Protection of seed oysters from starfish will be afforded when chemical control, the success of which has already been proven under field conditions, is applied on a commercial scale.

FISH CULTURE

The Division of Fish Culture operated during the year 93 major hatcheries, as well as a large number of rearing stations located in 40 different States. Over 7,822,000,000 eggs and fish, comprising 42 different species, were distributed from these stations for the restocking of lakes, streams, rivers and ocean. Five new hatcheries were under construction in 1938, and two already completed were transferred to this Bureau from the Farm Security Administration and the Reclamation Service. Approximately 10,000 applications from individuals, and conservation organizations, and a large number of blanket requests from the Farm Security Administration, National Park Service, and U. S. Forest Service were received and filled during the year. Special stocking programs have been worked out for a number of waters under Federal control with the idea of promoting better fishing in such areas. Most of the work, both hatchery and distribution, was carried on in cooperation with the State Fish & Game Departments.

ALASKA FISHERIES

The primary objectives of the Bureau of Fisheries in Alaska are to conserve the salmon and other fisheries, and to protect and maintain the fur-seal herd of the Pribilof Islands. The fisheries of Alaska during 1937 employed 30,331 persons, of whom 11,570 were fishermen. The catch in round weight, exclusive of whales, amounted to 825,783,422 pounds valued at $14,237,771. The round weight of whales could not be determined but their products amounted to 9,035,500 pounds, valued at $479,121. Of the total catch, exclusive of whales, 593,383,891 pounds, valued at $11,876,351, consisted of salmon; 229,340,640 pounds, valued at

$2,142,306, consisted of other fish, and 3,058,891 pounds, valued at $219,114, consisted of shellfish.

There were 236 establishments (exclusive of duplication) engaged in the fisheries of Alaska in 1937; of these, 124 canned fish, 93 cured fish, 22 manufactured byproducts, and 58 handled fresh and frozen fishery products. The output of these establishments amounted to 452,544,681 pounds, valued at $51,743,220. The salmon industry was by far the most important and produced 339,181,472 pounds, valued at $46,573,928. The herring industry was next in importance, with a production of 86,748,436 pounds, valued at $2,891,854. The halibut industry ranked third and produced 13,427,681 pounds, valued at $1,004,629. Of the remainder, whale, crab, and clam products were most important in value.

FUR SEALS

The fur-seal herd of the Pribilof Islands is by far the largest in the world. This herd, together with others of the North Pacific Ocean, is protected from capture at sea by the Convention of July 7, 1911, entered into by the United States, Great Britain, Japan, and Russia. Under this protection and the careful management of the United States Bureau of Fisheries experts, the herd of fur seals has grown from 130,000 in the year 1911 to about 1,870,000 in the year 1938. During these years there have been taken 827,156 fur-seal skins for manufacture, the annual yield varying in the different years from 3,191 in the year 1912 to 58,364 in the year 1938. Only the skins of three-year-old surplus males are taken. The herd under this system has been increasing at the rate of about eight per cent annually. The rehabilitation of the Pribilof Islands fur-seal herd is an outstanding example of what may be accomplished in conservation through international cooperation.

FORESTRY

By Charles E. Randall

Acting Chief, Division of Information and Education, Department of Agriculture

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INVENTORY OF FOREST RESOURCES

Intelligent planning for the management of the nation's forests needs to be based on dependable information about the forest resource itself. Data are required on the quantities, kinds, and distribution of timber, how fast the trees grow, and how fast they are being used. Estimates of the extent and rate of depletion of the country's timber resources have been made in the past, but never has a complete and accurate national inventory been made. To get such fundamental data a nationwide Forest Survey was authorized by Congress in 1928. This inventory of the forest resources and how they are used has been under way for several years under the supervision of the United States Forest Service. Over half the total forest area in the United States has now been studied and more than 100 preliminary reports issued.

Field work is practically completed in the Northwest, the Lake States, and the South. These field surveys serve as the framework for details of intensive work for special areas involving such matters as the study of growth rates of timber, factors affecting depletion, and present and probable future dependence of local populations on forest resources.

Already data obtained in the Forest Survey indicates that the nation's timber-growing potentialities are perhaps even greater than has been estimated. Nearly three-fifths of all the land in the Southern States, for instance, is in some stage of forest growth. The average amount of forest growth in this region, however, is only one-third of what could be produced. Deficiency of growing stock is a serious problem in many areas. The need for more productive use of forest land is shown in computations that indicate a growth of only 4,500,000 cords of pulpwood a year in the Southern States, as compared with requirements for projected, new, and old plants of 6,500,000 cords.

How to maintain and build up growing stock and balance growth and depletion are problems to be met in the interpretive phase of the Forest Survey in all regions.

FLOOD CONTROL

In 1936 the Department of Agriculture was directed to undertake investigations and measures for treatment of watersheds to supplement the downstream engineering work of the War Department in flood control. The Whittington-Copeland Flood Control Act of June 28, 1938, authorized the Department of Agriculture to carry out measures on watersheds of those streams for which projects of the War Department have already been authorized. Detailed surveys of 26 watersheds have been approved by Secretary of Agriculture Wallace. Work on 14 of these is under way. Three bureaus, Soil Conservation Service, Bureau of Agriculture Economics, and the Forest Service, are cooperating. Detailed surveys of critical areas in the watersheds are being made as a preliminary to specific action, and to determine costs and benefits. New evidence has been accumulated on the value of forest as protective cover in reducing floods. Research on the influence of forest cover on watersheds is under way at seven regional forest experiment stations maintained by the Forest Service.

SHELTERBELTS

When a project for large-scale Federal aid in the planting of shelterbelts in the Plains States was first started in 1935, the idea was considered impractical by many. In the past four years, however, some 7,000 miles of new field shelterbelts have been established on 13,500 farms in six States, from the Panhandle of Texas to North Dakota. These shelterbelts will protect 2,000,000 acres of crop land. Many cottonwoods in the shelterbelts of Kansas, Oklahoma, and Texas have grown 25 to 30 feet since they were planted in 1935.

The shelterbelts are usually about 110 feet wide and half a mile or more long, an elaboration of the principle of the old-fashioned windbreaks which have been used to shelter homes and farms in plains areas for centuries. They have been planted at right angles to the prevailing winds so far as practicable. To withstand the drouths, high winds, and dry winds of the Great Plains, trees were selected which would be adapted to semi-arid areas. The objective of the shelterbelt planting is to aid in tempering the winds, preventing soil blowing, conserving moisture, and bringing stabilization of productiveness of the land. The project is conducted by the U. S. Forest Service in cooperation with the farm owners, the Forest Service furnishing the trees and planting labor, and the farmers providing fencing and cultivation. During 1938, sowings of some 60,000,000 trees, enough for 4,000 miles of shelterbelt, were made in Forest Service nurseries for 1939 plantings. Most of these trees have been applied for.

NATIONAL FORESTS

The addition of 2,500,000 acres during 1938 brought the total area of National Forests in the United States to 175,000,000 acres. Most of this additional area was acquired by Federal purchase under the program of public forest extension authorized by the Weeks Law of 1911.

Up to Oct. 10, 1938, a total of 11,480 fires was reported in the year in the National Forests, but the area burned was held to 185,515 acres, in spite of extremely dry conditions and numerous lightning storms in the West.

To increase the productiveness of the National Forests, more than 145,000,000 trees were planted during the calendar year 1937 on more than 155,000 acres. Nearly 90 per cent of this acreage was in the South and the

Lake States, and pine, spruce, and fir were the species most used.

More than 30,000,000 visitors used the recreational facilities of the National Forests during the year. These facilities include 6,000 public camp and picnic grounds and 137,000 miles of trail. Hunting and fishing have steadily improved, and it is estimated that there are now about 3,500,000 big game and fur-bearing animals in the Forests. Extensive primitive areas have been designated within the National Forests, in which wilderness conditions will be maintained. A program of development of winter sports facilities has been under way at places like Tuckerman Ravine in the White Mountain National Forest and Timberline Lodge in the Mount Hood National Forest in Oregon.

Rehabilitation of families living on farmsteads acquired with lands purchased for National Forest purposes has been undertaken. With Federal aid some of these farms have been improved. Families living on areas definitely unfit for agriculture in some cases have been aided in moving to better locations. Two forest communities, the Drummond Community in Wisconsin and the Sublimity Community in Kentucky, are being developed, where forest work is being given to provide resident families with an income supplementing their farming activities.

FEDERAL FOREST PROGRAM

Restoration of millions of acres of depleted forest land in the United States and development of measures to insure the perpetuation of the forest resource are national problems of major importance. To help meet these problems, Chief Forester F. A. Silcox last year presented a three-point program:

1. Extension of public ownership and management of forest lands to safeguard vital public interests. Less than 30 per cent of the Nation's total forest land is publicly owned, and of all potential forest growth about one-tenth is on publicly owned lands. Nearly 6,000,000 people are directly supported by workers normally employed in forest industries, but two-thirds of the total forest land or about 400,000,000 acres, practically all privately owned, are without forest management looking to the permanent maintenance of timber production.
2. Increased public cooperation with private owners of forest land, through research, and in protecting the forests from fire and disease, and in developing practical forest management on private lands.
3. Public regulation in some form over the use of private forest lands to protect the broad, vital public interests inherent in all forest lands.

PRESIDENT'S FOREST MESSAGE

In a special message to Congress on March 14, 1938, President Roosevelt recommended an immediate study by a joint committee of the Congress of the forest land problem of the United States. As a result of this message a committee composed of five Senators and five Representatives was established to study the situation and make appropriate recommendations covering a national forest policy. Because of the acute problems involved, the President suggested that particular consideration be given to the situation with respect to private forest lands. The committee is expected to make its report in 1939, recommending definite action to be taken by Congress.

PERIODICAL PUBLICATIONS

Agricultural Education
1714 Locust Street, Des Moines, Ia.
Agricultural Engineering
American Society of Agricultural Engineering, St. Joseph, Mich.
American Agriculturist
Ithaca, N.Y.
American Forests
American Forestry Association, Washington, D.C.

American Fruit Grower
1370 Ontario Street, Cleveland, O.
Country Gentleman
Curtis Publishing Company, Philadelphia.
Cotton Trade Journal
810 Union Street, New Orleans, La.
Dairy World
608 South Dearborn Street, Chicago.
Farm Journal
Wilmer Atkinson Company, Philadelphia.
Fishing Gazette
461 Eighth Ave., New York City.
Forestry News Digest
American Tree Association, Washington, D.C.
Hoard's Dairyman
Fort Atkinson, Wis.
Journal of Agricultural Research
Superintendent of Documents, Washington, D.C.
Journal of the American Society of Agronomy
Geneva, N.Y.
Journal of Dairy Science
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Farm Economics
American Farm Economic Association, Menasha, Mich.
Journal of Forestry
Society of American Foresters, Washington, D.C.
Pacific Fisherman
71 Columbia Street, Seattle, Wash.
Produce Guide
100 Grand Street, New York City.
Successful Farming
Meredith Publishing Company, Des Moines, Ia.
Wallace's Farmer and Iowa Homestead
1912 Grand Ave., Des Moines, Ia.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Assn. of Nurserymen, P.O. Box 355, Louisiana, Mo.
American Country Life Assn., 297 Fourth Ave., New York City.
American Farm Bureau Federation, 58 E. Washington St., Chicago, Ill.
American Forestry Assn., 919 Seventeenth St., N.W., Washington, D.C.
American National Livestock Assn., 515 Cooper Bldg., Denver, Col.
American Ornithologists' Union, 1939 Biltmore St., N.W., Washington, D.C.
American Phytopathological Society, Bureau of Plant Industry, Washington, D.C.
American Poultry Assn., Fort Wayne, Ind.
American Society of Agronomy, Iowa State College, Ames, Ia.
American Society of Animal Production, University of Nebraska, Lincoln, Neb.
American Society of Equity, 311 Daily Star Bldg., Minneapolis, Minn.
American Society for Horticultural Science, Lock Box 299, Geneva, N.Y.
American Society of Mammalogists, University of Michigan, Ann Arbor, Mich.
American Veterinary Medical Assn., 221 N. La Salle St., Chicago, Ill.
Association of Land-Grant Colleges and Universities, Newark, Del.
Boyce-Thompson Institute for Plant Research Inc., 1086 N. Broadway, Yonkers, N.Y.
Dairymen's League Co-operative Association, Inc., 11 West 42nd St., New York City.
Farm Women's National Congress, Clarksville, Ia.
Institute of American Meat Packers, 509 S. Wabash Ave., Chicago, Ill.
International Farm Congress of America, Continental Bldg., Kansas City, Mo.
Izaak Walton League of America, 222 N. Bank Drive., Chicago, Ill.
Jewish Agriculture Society, Inc., 301 E. 14th Street, New York City.
Middle Atlantic Fisheries Assn., 203 Front St., New York City.
National Assn. of Audubon Soci-

ETIES, 1775 Broadway, New York City.

NATIONAL BOARD OF FARM ORGANIZATIONS, 1731 Eye Street, N.W., Washington, D.C.

NATIONAL DAIRY COUNCIL, 111 N. Canal St., Chicago, Ill.

NATIONAL EDUCATIONAL AND CO-OPERATIVE FARMERS' UNION OF AMERICA, 1731 Eye Street, N.W., Washington, D.C.

NATIONAL FERTILIZER ASSN., 676 Investment Bldg., Washington, D.C.

NATIONAL GRANGE, 970 College Avenue, Columbus, O.

NATIONAL HIGHWAYS ASSOCIATION, Bass River, Cape Cod, Mass.

NATIONAL LIVESTOCK AND MEAT BOARD, 407 S. Dearborn St., Chicago, Ill.

NATIONAL POULTRY COUNCIL, Davisville, R.I.

PEOPLE'S LOBBY, INC., 817 Fourteenth St., N.W., Washington, D.C.

SOCIETY OF AMERICAN FLORISTS AND ORNAMENTAL HORTICULTURISTS, Stevens Hotel, Chicago, Ill.

SOCIETY OF AMERICAN FORESTERS, 825 Hill Bldg., Washington, D.C.

UNITED STATES LIVESTOCK SANITARY ASSN., 33 Livestock Exchange Bldg., Wichita, Kan.

VEGETABLE GROWERS' ASSN., OF AMERICA, c.o. F. L. Allen Co., Philadelphia, Pa.

WOMEN'S NATIONAL FARM AND GARDEN ASSN., INC., Amber, Pa.

DIVISION XII
MINERAL INDUSTRIES

GOLD AND SILVER

By Walter Renton Ingalls

Consulting Engineer, New York

GOLD

The world's production of gold in the first 10 months of 1938 was 26,250,000 oz., compared with 24,720,000 oz. in the same period of 1937. The total figure for 1938 will probably not be very different from this preliminary figure divided by 10 and multiplied by 12.

These figures, both for 1937 and 1938, are exclusive of what may have been produced in Russia. Since 1936 Moscow has become more and more silent. It is probable that the annual increases in Russian gold production —that since 1930 have been strong— ceased in 1937. For that year, the conjectural estimate of 6,500,000 oz. by the American Bureau of Metal Statistics may be nearly enough correct. In respect of 1938 nothing is known, and it would be idle to offer even a conjecture. The name of A. P. Serebrovsky, the former head of gold production under U.S.S.R., has disappeared, although he was an engineer of an intelligence and ability that commanded American respect. It is suspected that something has gone wrong with gold production in Siberia, although that is of course almost the kernel of Soviet economy, because with gold any deficiency in goods may be bought from abroad.

The gold production of South Africa in 1938 averaged about 1,000,000 oz. per month. Russia probably held second place. It will be necessary to await the final figures, to be sure whether the United States or Canada held third place in gold production in 1938.

At the middle of December, 1938, the total gold reserves of the United States were about $14,400,000,000 compared with $12,760,000,000 at the beginning of the year. These figures are attaining such astronomical proportions that they lose their meaning. Our gold holdings can be better visualized at the end of 1938 as being about 14,000 tons of 2,000 lbs. avoirdupois.

SILVER

The world's production of silver in 1938 will figure about the same as in 1937, in which year it was about 273,000,000 oz. There was a decrease in production in the United States, correlating with the lower rates of lead and copper production, from the ores of which silver is largely obtained as a byproduct. On the other hand there was an increase in the production of Mexico which is the largest silver producing country of the world. Its production in 1937 was 85,000,000 oz. Its production in 1938 will figure a little more than that. Notwithstanding the practical confiscation of American petroleum investments in Mexico, and other confiscations, this country continued to buy Mexican silver.

In the first two months of 1938 the United States Treasury buying price for silver was 45c. per ounce, which was equivalent to 44¾c. net, after deduction of certain charges. During March the price was reduced to 43c. (or 42¾c. net) which prevailed during the remainder of the year. The price for domestic silver in 1938 was 64.64c., the difference between this and the foreign price being the bonus to American silver producers.

During 1938 the American Government continued to buy foreign silver, including new foreign production and Chinese reserves. The movement of Chinese silver coin from London to New York, which began in November, 1937, ran well into 1938 and aggregated about 140,000,000 oz. There is believed to remain about 180,000,000 oz. of Chinese silver in London. Of course this liquidation was to assist in financing the military defense of China.

At the middle of 1938 the United States Government began the physical transfer of about 35,000 tons of silver from the depositories in New York to the new steel and concrete vault on the grounds of the U.S. Military Academy at West Point.

Up to the close of the year the Silver Purchase Act of 1934 has cost the American people about $1,000,000,000 for which an immense tonnage of silver bullion that is of relatively little industrial usefulness has been acquired. The inflationary purposes of these maneuvers have not yet been reflected in any broad improvement in price level. The wholesale commodity price index of the U.S. Department of Labor was 123.6 in 1937 (100 in 1913 as a base). From 1921 to 1929, both years inclusive, it was steady around 140.

This country's holdings of silver as of June 30, 1938 were 2,371,000,000 oz., compared with 1,966,000,000 oz. at the middle of 1937 and 693,000,000 oz. at the middle of 1934. For each ounce of newly mined domestic silver 6.2 oz. of foreign silver under the Act of 1934 have been bought. Among the other results of the effort to restore bimetallism throughout the world the following may be noted: About 300,000,000 oz. have been taken by this country out of China, the one remaining country using silver as standard money, and instead of its being a net purchaser of 100,000,000 oz. per year it has been driven to a managed currency and the selling of its stocks of silver. The dream of establishing bimetallism has vanished. Although foreign speculators traded actively on the bull side of the market while the American Government was clearly behind it they stopped buying when the Government showed signs of weakening. Not one of the other seven governments participating in the London agreement even suggested renewal at its expiration, Dec. 31, 1937. Purchases of their own silver production made by other parties to the agreement were finally dumped on this country. At no time after the purchasing campaign began could the United States have offered silver without causing a panic, with the collapse of world prices, and this will continue to be so.

The enormity of our present position of silver is better illustrated if 2,371,000,000 oz. are converted into 82,500 tons of 2,000 avoirdupois pounds, our present stock of silver bullion being, consequently, approximately as much as our commercial stocks of lead and zinc.

On Dec. 31, 1938 President Roosevelt announced continuance of the 1938 price for domestic silver up to the middle of 1939.

IRON AND STEEL

By Edwin F. Cone

Editor, *Metals and Alloys*

RECESSION AND RECOVERY

As contrasted with 1937, the trend in the American steel industry in 1938 was the opposite to that of the year before. It will be recalled that towards the last quarter of 1937 a decided slump appeared, unprecedented in its suddenness. By the end of the year, steel operations had fallen to 20 per cent of capacity. This recession continued in 1938 until near the middle of the year when a gradual recovery developed which continued to expand through to the end of the year. As contrasted with low operations of 20 to 30 per cent of capacity early in 1938, the rate of steel production by the end of the year (December) was about 55–56 per cent. The prospects for continued recovery were good.

STEEL PRODUCTION

On the whole, 1938 was not a banner year in steel or pig iron production. A reliable picture of the situation is obtained by a study of the preliminary statistics of the American Iron and Steel Institute. According to these data steel production (mostly ingot) was 27,839,261 gross tons compared with 49,502,902 tons in 1937, a decline of 44 per cent for 1938 and the lowest total since 1934.

While operations in the fourth or last quarter were 55.77 per cent of capacity, the average for the year was only 39.79 per cent compared with 72.38 per cent in 1937. The high point was 62.05 per cent in November and the low was 28.46 per cent in June.

Pig iron production for 1938 is estimated at 19,341,000 gross tons as compared to 36,925,987 tons in 1937, a decline for 1938 of 47.52 per cent. The next smallest output was in 1931 at 18,426,354 tons.

PIG IRON AND STEEL PRODUCTION

Year	Pig Iron	Steel
1938	19,341,000*	27,839,260*
1937	36,925,900	49,502,900
1936	31,029,187	47,767,856
1935	21,372,699	34,092,594
1934	16,138,573	26,055,289
1933	13,345,602	23,232,347
1932	8,781,453	13,681,162
1931	18,426,354	25,945,501
1930	31,752,169	40,699,483
1929	42,613,983	56,433,473
1928	38,155,174	51,544,180
1926	39,372,729	48,293,763
1921	16,688,000	19,783,000
1913	30,966,000	31,301,000
1898	11,774,000	8,930,000

* Estimated

Again 1938 presents an exemplification of the old saying that the steel industry is either a "prince or a pauper." With the exception of the major part of 1937, it has been a long time since the industry could be classified in the "prince" class. Prospects for 1939 are rosier but no bets are being made as to a full return of prosperity.

STEEL EXPORTS

The exports of iron and steel in 1938, while not as large as those in 1937, were in excess of those of 1936. Total exports to December, 1938, including pig iron and scrap, were 4,839,173 gross tons compared with 7,567,300 tons for all of 1937 and 3,162,700 tons for 1936. The large foreign demand for American pig iron, which developed in 1937 to record large proportions, continued on a smaller scale in 1938. To Dec. 1, 1938 the total was 412,229 tons as contrasted with 745,891 tons for the same period in 1937. In 1937 the export rate was 65,200 tons per month as compared with about 37,470 tons per month in 1938. In 1929 these exports were only 3,863 tons each month. Exports of scrap iron and steel continued a feature but on a diminished scale as compared to the record volume in 1937. In 1937 these exports reached the phenomenal volume of 341,300 tons per month. In 1938 to Dec. 1 the rate was 259,600 tons. In 1936 the export rate was 161,750 tons, a record at that time. Japan has been the largest buyer of American scrap, taking 46.7 per cent of the 1937 export total. In the four years, 1934 to 1937, Japan absorbed 5,255,598 tons or 52.6 per cent of the total exports of 9,967,851 tons, a significant fact and one worthy of Government attention.

PROGRESS IN ALLOY STEEL

There is always keen interest in the alloy steel industry. Only data for 1937 are available at this writing but these supplement the information published in this report a year ago. The following table, compiled from the official data of the American Iron and Steel Institute, shows the trend in recent years in gross tons.

Year	Total Alloy Steel	Per Cent Total Steel
1929	3,957,207	7.01
1930	2,443,311	6.00
1931	1,455,913	5.61
1932	798,604	5.54
1933	1,547,183	6.66
1934	1,612,275	6.19
1935	2,119,658	6.21
1936	2,883,622	6.04
1937	3,032,626	6.00

That the demand for alloy steels in general is a stable one is demonstrated by these data; the depressions have had only a minor effect.

STAINLESS STEELS

In that branch of the steel industry known as the "stainless steels," a highly specialized group of alloy steels containing chromium, or nickel and chromium, definite progress was made in 1937. Data for 1938 will not be available for some time, but the 1937 statistics supplement those discussed here a year ago. Here again these data of the American Iron and Steel Institute are the reliable measure of the progress in this industry. According to the Institute the production of stainless steel ingots (not castings) for the 1934 to 1937 period has been as follows in gross tons:

Year	Total
1934	49,917
1935	65,697
1936	90,966
1937	139,838

These data indicate a marked increase for 1937 over 1936—53.7 per cent—but this is in part due to a more complete report from all producing companies. But the expansion in 1937 was gratifyingly large. Prospects for further increase in demand for the stainless steel alloys are excellent because of new applications and of increased use of present types.

OUTLOOK FOR THE INDUSTRY

Prognostications are dangerous and usually of little value, especially in view of the history during the last nine years. It is the firm conviction of leaders in the steel industry, however, that prosperity can not return in full measure until the antagonism between Government, labor and business is replaced by mutual cooperation and confidence. There are signs, as 1939 opens, that this greatly desired day or era is about to dawn. If it does, the steel industry is set for great things in all departments. The depths to which production has sunk is revealed by the rather astonishing fact that for the first half of 1938, the German production of both pig iron and steel exceeded that of the United States for the first time in history.

RESEARCH IN METALLURGY

Definite progress in research in metallurgy was continued in 1938 and new alloys or improvements in processes resulted. Only two or three of the more important developments can be touched on here.

A year ago attention was called to the rapid development of the low alloy high strength steels. During 1938 there were some additions to the rather impressive list. The three new developments were "Ductiloy" by the Great Lakes Steel Corp., Detroit; "Magari R" by the Bethlehem Steel Co.; and "A. W. Dyn-El" by the Alan Wood Steel Co. These steels make it possible to construct a railroad car or any equipment for transportation so that it is lighter with no sacrifice in strength, *i.e.* an increase in pay-load. This development is sure to expand rapidly. A complete survey of these steels was published in *Metals and Alloys,* October, 1938.

A rather startling development last year was the announcement of a new free-machining steel called "Ledloy." It was perfected by the Inland Steel Co., Chicago in cooperation with Battelle Memorial Institute, Columbus, O., a large research organization. The popular free-machining steel up to the present has been a high sulphur Bessemer steel. Ledloy is an open-hearth steel to which a small percentage of lead has been added. The effect of the lead has been to increase the free-machining properties of the steel without in any way impairing the quality of the open-hearth product.

Further research in the perfection of controlled atmospheres for heating and heat-treating furnaces continued and new knowledge was obtained. Now a large majority of the heat-treating furnaces are equipped with apparatus insuring a controlled atmosphere in the furnace.

Centrifugal casting of metals or alloys is not new but a new application of the principle was made public in 1938. The Ford Motor Co., Dearborn, Mich. is now casting in centrifugal machines its transmission and rear axle gear blanks instead of producing them as forgings. A complete discussion of this development was published in *Metals and Alloys,* October 1938.

Many other interesting developments, the results of scientific and practical research by industrial and specialized research organizations, are constantly being made public; these developments mean much to the progress of the ferrous and nonferrous industry as a whole.

COAL AND COKE

By R. Dawson Hall

Editor, *Coal Age*

GENERAL

A year of depression has not robbed the coal industry of its hope, especially in the Middle West, where the domestic stoker promises to provide a market for a premium coal of small size, thus supplying sales opportunity for those same finer sizes which have hitherto had to be sold at heavy loss. But this type of fuel must be clean; accordingly, many cleaning plants are under design and erection, though part of this activity must be ascribed to competition for, now that some are supplying this better product, others have to follow suit. In the anthracite region, the fall in prices is causing financial distress which has resulted in many mines closing down or being leased to small operators who, before reopening, are able to make better arrangements with their employees than the larger corporations.

PRICE RULES AND REGULATIONS

In 1938 the coal industry suffered from the large stocks accumulated in anticipation of the higher price for coal which it was expected would be enforced when, at the close of 1937, the National Bituminous Coal Commission got into operation. The prices ultimately set were high enough to reduce sales and even when, after a short period of vitality, they ceased to be operative so that prices again sagged, the market continued to lag, making the year 1938 one of low output.

On Jan. 28 Judge M. T. Manton, U.S. Circuit Court of Appeals at New York, enjoined the Commission from enforcing its price-fixing order of Dec. 16 of the previous year and, on Feb. 8 the stay was continued, this on petition filed by J. W. Carter of the Carter Coal Co. of West Virginia, who alleged that the order was given without a fair hearing being accorded to the Carter Coal Co. or to other interested producers and consumers.

On Feb. 19, on petition filed by Associated Industries of New York State Inc. (1,462 industrial concerns mainly in New York State), the Circuit Court of Appeals at Washington, D.C. indicated it would grant a temporary stay of coal prices which it did Feb. 21. The court's order followed a similar temporary order on behalf of 209 railroads. On Feb. 23 the Commission unanimously voted to revoke its 30,000 or more minimum-price rules and regulations effective Feb. 25.

On March 21 C. F. Hosford resigned as chairman of the Commission, and Percy Tetlow succeeded him May 11 after a period of service as temporary chairman. On April 6, Hosford severed his connection entirely with the Commission and Senator R. D. Holt alleged in the Senate that Commissioner Tetlow was believed to have filched information from the Commission's files for J. L. Lewis of the Committee on Industrial Organization for use in making agreements, that prices were not set by Hosford but dictated to him, and that the prices were revoked not at the office of the Commission but in a hotel at a meeting attended by J. L. Lewis, Judge Warrum who wrote the Guffy Bill, and Thomas Kennedy, Lieutenant Governor of Pennsylvania and secretary-treasurer of the United Mine Workers. The Commission consumed the rest of the year in hearings to determine fair prices superseding those determined by competition.

COAL PRODUCTION

Bituminous coal production declined calamitously in 1938, from 442,455,000 short tons in 1937 to 342,407,000 in 1938, both revisable figures of the Bureau of Mines. The decline is nearly 23 per cent.

Licit anthracite production showed a similar loss from 51,856,000 to 45,054,000 short tons, a drop of 13 per cent. The real drop in anthracite as a whole is probably a little larger, for neither figure covers bootleg anthracite, and that illicit production fortunately declined during 1938.

STATE CONTROL OF ANTHRACITE INDUSTRY

Purchase of all the State of Pennsylvania's anthracite resources and improvements at a "fair price" or by condemnation, if necessary, or the purchase of the lands alone by the State, was proposed by Governor G. H. Earle Jan. 18, 1938. He proposed to lease them back to their present owners for operation, with allocations and quotas on the basis of geographical location and other factors. On Jan. 25 Governor Earle presented his plan to the President who apparently was noncommittal. State control of the anthracite industry was recommended by Governor Earle's commission in its final report April 6 after more than a year's study. It proposed establishment of a permanent body similar to the Public Utilities Commission to regulate prices, and of a marketing commission to displace eventually wholesalers and retailers, to advertise anthracite and to promote automatic stokers. Three other corporations were to be formed to lease idle coal lands, employ unemployed and free-lance miners and to mine not more than 4,000,000 tons annually. Measures drawn along the lines suggested by the Commission were introduced in the House and hearings held by the Committee on Mines and Mining.

MINING DISASTERS

Disasters increased somewhat in 1938. Ten men were killed by a gas explosion at the Harwick mine of the Harwick Coal & Coke Co., in Pennsylvania Jan. 12; five men died at the Vail Mine of the Vail Coal Co. in the Grand Teton field of Wyoming Feb. 11 as the result of a gas or dust explosion; four men lost their lives in a similar manner at Lorado No. 2 mine of the Lorado Coal Co., Logan, W.Va., April 8, due probably to a gas ignition; 45 men (nine of whom were outside the mine) were killed at the Keen Mountain mine of the Red Jacket Coal Co in the Lower Buchanan field, Virginia, April 22 in an explosion said to have been initiated by a shot secured on the outside of a rock and not set into a hole drilled into it (dobie shot); eight men were killed in two sequent explosions caused by an emission of methane resulting from a sliding coal pillar at the St. Clair colliery of the St. Clair Coal Co., St. Clair, Pa. April 27; ten at the Butler colliery, Volpe Coal Co., near Pittston, Pa., June 2 by a gas explosion said to have been due to liberation of methane when a large area of roof caved; and six men at the Praco mine of the Alabama By-Products Co., Praco, Ala. caught under a fall of rock.

MINE LOADING AND OTHER MECHANICAL PROGRESS

Self-loading machine loaders made advances in 1938 but data of production progress are available only for bituminous coal in 1936 when mobile-loading machines produced 66 per cent more tonnage than in 1935; scraped loaders 13.8 per cent and duckbills and other self-loading conveyors, 24.9 per cent. Tonnage of all kinds of self-loading machines increased 60.2 per cent. Pit-car loaders produced 5.1 per cent less tonnage and other hand-loaded conveyors 42.4 per cent more. Tonnage by hand-loaded machine equipment increased 41.9 per cent. The Bureau of Mines tentatively estimates the mechanically loaded coal output for the whole United States in 1937 at 93,990,728 tons out of a total production of 493,370,000 tons. Illinois led in tonnage mechanically loaded in 1937, with West Virginia second.

Jigs in 1936 prepared 38.4 per cent of the coal mechanically; launders and upward-current classifiers, 37 per cent; jigs in combination with concentrating tables 4.3 per cent and concentrating tables 3 per cent, with pneumatic tables 17.3 per cent. In per cent of state output mechanically cleaned, Alabama led in 1936, with Washington State second. Progress in mechanical cleaning probably was more active during the year 1938 in Illinois than in any other State, and in 1936 the advance in mechanical cleaning in Illinois over 1935 was 78.5 per cent, though Washington State with 95.8 exceeded it, and Indiana with 71.2 per cent was a close second.

Operators are becoming bolder in constructing belt slopes through the rock in place of shafts so as to avoid tonnage fluctuations and power peaks and decrease the number of mine-car yards from two to one, one below and one above ground. Some advocate the construction of such a slope when the coal cover does not exceed 500 ft. Possibly the deepest slope of this character finished in 1938 was that at the D. O. Clark mine, Superior, Wyo., which reaches the coal 420 ft. below the mouth of the slope and about 550 ft. below the surface. In this case, however, several seams are tapped and two loading points provided.

HAULAGE EQUIPMENT

Improvements in haulage equipment continue. The Buckhorn mine of the Consolidated Coal Co. near Herrin, Ill. is using large bottom-dump shuttle cars to carry the coal from the mother belts near the face to the belt which carries the coal up the main slope. These cars hold 10 tons of coal when level full and 15 tons when provided with 10-in. side boards. They are 21 ft. long, 7 ft. wide and 54 in. high. The coal comes to the mother belt on flight conveyors from three headings and from four rooms on either side of the entry. Coal is loaded on the flight conveyors by loading machines.

Cutting machines on caterpillar tractors in going from room to room climb over the conveyors. Both electric drills and material are pushed around by hand on rubber-tired carts but material semi-trailers will displace the material carts now in use and be pulled by a rubber-tired storage-battery tractor. For the most part, the coal after undercutting is forced down by air under heavy pressure (Airdox), but tests are being made with a hydraulic snubber with a water pressure of 2,500 lb.

One loading machine stationed in turn at the end of each of the three headings at the end of a room entry feeds coal to the shaking conveyors in those headings, another located in turn at four room faces on the right of the entry feeds to shaking conveyors in those rooms and a third similarly cares for the rooms on the left. All this coal comes to the mother belt. Development never leads room work in such room entries more than 300 ft. However, the same management at another mine is introducing rubber-tired haulage, not being convinced as to which system will produce coal at the lower cost. Trackless trucks can go around other trucks and obstacles and maneuver into position. A four-ton truck has been designed with a conveyor bottom which will discharge its coal in 20 seconds.

At Beulah, N.D. the Knife River Coal Mining Co., working 14 ft. of its 18–22 ft. seam, has loaded as much as 1,027 tons in eight hours with a single machine. With electric drives for shaker conveyors it has been impossible to use the conveyor for taking posts and other material to the face but a unit has been made with four speeds in direction of coal travel and also three in reverse for the express purpose of carrying such supplies. The duckbill, a converging pan thrust by the conveyor into the fallen coal, is now arranged so that it advances automatically as the coal is loaded.

Automatic and semi-automatic couplers like those on railroad cars are being installed on mine cars to cut down coupling accidents, and at the Bergoo No. 4 mine of Pardee & Curtin 150 six-ton mine cars have been furnished with hydraulic brakes, probably the first thus to be used. Ten-ton cars, the largest for standard underground service, have been installed at the Isabella mine of the Weirton Coal Co. Where shafts are too small for large cars, as at the Wasson Coal Co.'s mine, large cars have been put at the working faces to transport coal to an inside dump where the coal is loaded mechanically into smaller cars for hoisting.

STRUCTURAL FEATURES

At Montour No. 10, Pittsburgh Coal Co., rooms are driven in pairs, 8 ft. wide with a 14-ft. pillar between them, and with a 30-ft. pillar between pairs, which pillar is undercut by machines on both sides with 15-ft. cutter-bars. The 14-ft. pillar between the rooms in each pair is left as a fender. Rooms and pillars are worked in three shifts. The drawslate in front of the face is supported by aluminum H-beams and 2-in. triple-strength pipe, the latter used as forepoles from beam to beyond the undercut. These are moved forward with the face. Sometimes three such beams are used in a single working place. Purposes sought are to retain the drawslate in place until the main roof falls and to progress so rapidly that the roof stresses will be reduced and work completed before natural roof strength is decreased.

Because the roof near the intakes tended to fall at Talleydale mine of the Snow Hill Coal Corporation the entering air is now sprayed in summer from 224 nozzles with water lifted from the gravel in the Wabash Valley. Moisture is then eliminated, and the air enters the heading at the mine temperature. The roof now is standing well, and it is believed that falls occurring before such cooling were due to rock expansion.

Tellurium rubber coatings are being provided for machine cables and deproteinized rubber has been used with advantage in wet places because it absorbs practically no water. Much interest has been shown in the use of fiber-glass insulation for use in machines because it is less space consuming, can not distill, and enables machines to be run at higher rating or for a longer time at the same rating. Progress is being made in use of mercury-arc rectifiers; several were installed in the past year.

"Adobe shots," in which the explosive is secured to the outside of a rock by a patch of clay, a weight or a string, are used in the anthracite region occasionally for blasting overhanging rock or loose coal in an obstructed battery, anthracite-dust explosions being unknown. The Lehigh Navigation Coal Co. of Lansford, Pa. has devised a hemispherical cup of rubber or paper containing 40% gelatin dynamite. This rubber cup can be placed by a long stick and by rubber cement or clay can be made to secure itself to the rock or coal. Thus the man placing and firing the charge can keep out of danger.

ALLOYS IN EQUIPMENT

Alloys are making progress in the coal industry, reducing car weights 19 to 25 per cent and increasing the life of metal in the mines in other cases two to four times. A stripping bucket at the United Electric Coal Co.'s mines in Illinois was reconstructed of an alloy of steel, and the new bucket had a capacity of 26 cu.

yd. instead of 15. Counterbalances are not used with the 27-cu. yd. shovel of the Midland Electric Coal Corporation of Illinois as they involve wear and tear of ropes and possible mechanical trouble, but heavier motors must now be employed. Rubber-tired scrapers which are pulled by a caterpillar tractor and operated by a rope on the hoist of the tractor are taking a leading place in the stripping field where there is glacial drift or clay to be removed. They are not suited for use with rock. The scrapers collect the material, lift, transport, dump and level it, and having no limitations of distance provide for the free operation of shovels or dragline excavators.

MINE VENTILATION

Setting of fans, one for each main split, at the bottoms of shafts has been advocated and in some cases followed. A fan is provided on the surface to ventilate the mine, should an explosion destroy the fans below ground. The Pocahontas Corporation in West Virginia has lowered the percentage of gas in its returns from 1.5 per cent to 0.3 per cent by drilling 3-in. holes to the coal seam being worked which, in aggregate, discharge 600 cu. ft. of methane per minute. However, the mine must drain the water in the seam or the water will seal the hole against the escape of methane.

RESEARCH AND STUDIES

Bituminous Coal Research, Ltd., the research agency of the National Coal Association, closed its work Dec. 31. Anthracite Industries has been financing studies at the Mellon Institute into the use of anthracite ash for soil betterment and into improvements in domestic coal handling and combustion.

Rosin and Rammler's law as to size distribution of broken minerals has been found applicable by H. F. Yancey and M. R. Geer, U.S. Bureau of Mines, to American coals within certain wide ranges. Percentages of coal retained on screens with coarser coals, however, were less than indicated by the R. & R. equation.

Shale with clay in the presence of moisture has been shown by H. Landsberg, Pennsylvania State College, to expand along the bedding 100 times as much as limestone, 20 times as much as sandstone and 2.8 times as much as shale alone; across the bedding these figures for limestone are 333 to 1,000 times, for sandstone 50 to 145 times and for shale 10 to 29 times. Roof failure, believes Dr. Landsberg, arises more often from moisture than from temperature changes.

With coals having an agglutinating index of ten or more, troublesome coke-tree formations possibly may be expected in domestic stokers, according to studies of Battelle Memorial Institute. Gas passed through 2 in. of anthracite burns flamelessly, emitting radiant heat, Eric Sinkinson, Lehigh University, ascertains. If, as soon as radiance appears the gas is shut off, radiance will disappear, as the coal is not hot enough to maintain combustion, showing that ash acts as a catalyst to promote combustion of the gas on the fine ash particles.

Anthracite Industries Laboratory, Primos, Pa. proved that anthracite will burn effectively without combustion space above fire and will clinker at the heart of the fire if the water jackets are too remote from that point. Illinois coal is porous and loss of oil deposited on it for dust-allaying purposes is due to absorption rather than evaporation, so more oil must be used than with less absorptive coals, according to Lee Hazen, Bell & Zoller Coal & Mining Co., Ziegler, Ill.

After 15 months' study the Mellon Institute for the Air Hygiene Foundation found that in 25 cities the percentage of sulphur-dioxide air pollution was too low to affect health even on foggy days. Mine bacteria remove carbon monoxide and hydrogen, leaving no gases to witness to the presence of dormant fires, according to researches by G. S. Scott and G. W. Jones, U.S. Bureau of Mines, who showed that present-day analyses would determine whether anthracite had been subjected to the heat of a mine fire or was natural anthracite, for there are essential differences between the two.

Oxalic and aromatic acids were formed when coal was oxidized with alkaline reagents by H. C. Howard, Carnegie Institute of Technology. The aromatic acids had an average composition equivalent to that of benzene tricarbolic acid. Some fusain will submit in part to hydrogenation which is found to give the highest yield with high-volatile A-group coals, according to the studies of T. E. Warren, K. W. Bowles and R. E. Gilmore, Canadian Bureau of Mines. Recent studies have been made into the pulverization of coal at the mine followed by its stirring in water with a small quantity of soap. Thus liquefied it may be piped to point of use, when lime can be added to precipitate the soap and cause the coal to settle, so that it can be briquetted, according to Robert E. Burk, Cleveland, Ohio.

All the ash in a coal seam will not fuse at the same temperature; thus the ash of the light, or clean, coal may fuse more or less readily than the ash of heavy or dirtier coal, and the ash of fine coal may be more or less refractory than the ash of coarser coal. These facts have been determined by L. C. McCabe, Illinois State Geological Survey.

Further studies of the U.S. Bureau of Mines show need for revision of the Recommended American Practice standards for rock dust and should be based on a table prepared by the Bureau connecting minimum percentage of inert dust with percentage of methane and volatile content of coal. Water repellants will keep rock dust from caking. A new midget impinger dust-sampling apparatus has been devised by the Bureau which operates with a pressure drop of only 12 in. of water.

NON-FERROUS METALS

By Walter Renton Ingalls

Consulting Engineer, New York

GENERAL

The economic depression that developed in the United States during the second half of 1937 continued into 1938 with increased severity. About the middle of 1938 our domestic metal markets strengthened, reflecting the strong foreign situation and also the indications that a turn in the tide of domestic affairs was near at hand. There was physical improvement here, as anticipated, but it did not become statistically evident until the fourth quarter. This is the general pattern to which copper, lead and zinc each conforms. Preliminary estimates indicate that the use of these metals in the United States in 1938 was in each instance about 70% of the rate in 1937.

Industrial consumption in Europe improved during 1938, notwithstanding some decadence in France, and there were also large requirements for military purposes, anticipatory as in the instance of Germany and Russia, or actual as in the instance of Japan which was a large buyer of all the metals, its domestic supplies being naturally low.

The changes in political geography in 1938 had little effect upon the economics of the non-ferrous metals. The conquests of Austria and the Sudetenland gave the Germans only a negligible production of copper and only a little lead (from Austria). The Germans acquired the two Bohemian zinc smelters, but their production is derived mainly from imported ore, and anyway zinc is the only metal whereof Germany has adequate resources. The Italians have been getting a little platinum from Abyssinia. China has not heretofore figured in economic surveys as a producer of the non-ferrous metals except for productions of antimony, tin and tungsten far to the south; and it is uncertain what the Japanese are expecting in those respects. Their campaign to the south has apparently diverted to themselves a little of its tin production.

In the following reviews reference to tons means tons of 2,000 lb., except in respect of tin for which the figures means tons of 2,240 lb.

THE COPPER SITUATION

During the first half of 1938 copper was uninteresting. The quotation at the beginning of the year was 10⅛¢ New York. The economic depression in the United States was in full swing. Domestic consumption had fallen to a rate of about 33,000 tons per month. In March it rose to about 40,000 tons and was maintained at about that rate through June. That rate was far below the producing capacity of the mines, at which operations had to be scaled down, with the consequence of unemployment of labor and reduction of dividends to stockholders.

The low rate of consumption in the United States was ascribable to a drastic decrease in the rate of automobile manufacture and to stagnation in house-building, telephone construction, public utility construction, etc. As in automobile manufacture, there were also decreases in the making of electric refrigerators, radio sets, etc. The manufacture of electrical machinery, including motors, etc., was materially less than in the corresponding months of 1937, but this channel of copper consumption did not dry up so much as the others.

Outside the United States consumption held up very well at a rate of about 125,000 tons per month, but there were indications that the industrial consumption in Great Britain was receding and there were fears that the military accumulations in Germany, Russia and Japan might cease at any moment. Consequently the outlook was viewed timorously, and the producers who were members of the cartel which had been maintaining production at 105% of basic quotas, decided to reduce it to 95% effective July 1, 1938. At the beginning of July the price was 9¢ New York.

In July a turn of the tide became evident, not so much in the United States as abroad. In the United States there began to be an improvement in mill shipments, largely in anticipation of a revival in automobile manufacture which had sunk so low that it simply had to improve. The predominant influence was abroad, however; Japan and Russia continued to take immense quantities of copper, the former needing it for emergency and out of consideration that it had been unable to increase its own production as much as planned. With these conditions, plus speculative intervention, the price for copper in London rose and New York had to follow, the latter market rising to 11¼¢, delivered or 11¢, f.o.b. refinery.

The war scare in September produced a good deal of nervousness and hesitation but when it was ended sentiment became confident and the producers of the cartel viewed the outlook so favorably that they voted to raise their rate of production to 105%, effective Oct. 15, and a few days later rescinded that order and decided as of Oct. 15 to remove restrictions on production for such period as should be found advisable. The effect of this was to raise the rate of production outside of the United States to about 150,000 tons per month, attainable not immediately but in the course of two or three months. While this was in excess of the immediate rate of consumption the producers decided to forestall such an extravagant rise in price under speculative influence as had occurred in 1936, and with an 11¢ price for copper and a full scale of operation all of the large producers in Africa, Canada and South America could, of course, realize large profits.

At the time when unlimited production was permitted the price for electrolytic copper was 11.25¢ delivered in Connecticut and 11.50¢ c.i.f. Hamburg, Liverpool and Havre. The market was quick to recognize that an unlimited production could not be absorbed and the foreign price receding to 10.725¢ c.i.f., the cartel on Nov. 23 ordered restriction of production to the rate of 110% effective Jan. 1, 1939. This did not stop the decline in the price abroad, wherefore on Dec. 7 the cartel ordered reduction of production to 105%, effective Dec. 15, 1938 and to 100%, effective Jan. 1, 1939. At the latter rate the production by members of the cartel will be about 90,000 to 95,000 tons per month, and the total production ex-U.S.A. about 115,000 tons per month.

During December the foreign price for copper continued to ease. American producers maintained their price at 11.25¢, delivered in Connecticut, but from second-hands small quantities were obtainable at prices correlating with the foreign price. At the end of December the American price was still 11.25¢ delivered, while the foreign price was 10.55¢ c.i.f. principal ports.

COPPER PRODUCTION AND STOCKS

Refined stocks of copper in U.S.A. at the beginning of 1938 totaled 259,351 tons; at the end of November, 269,488 tons. Refined stocks ex-U.S.A. at the beginning of 1938, 211,844 tons; at end of November, 155,049 tons.

Production of blister copper in U.S.A. in 1937 was 982,045 tons; in 1938, about 640,000 tons. Production ex-U.S.A. in 1937 was 1,349,135 tons; in 1938, about 1,275,000 tons. Production ex-U.S.A. is as reported by the Copper Cartel, including some derivation from scrap copper and excluding the production of Russia, Japan and Australia.

According to the American Bureau of Metal Statistics, production of new copper everywhere ex-U.S.A. in 1938, excluding derivation from scrap, will be about 1,590,000 tons compared with 1,628,400 tons in 1937. It may be concluded, therefore, that the copper production of the world in 1938 has been about 2,268,000 tons *vs.* 2,572,000 in 1937.

LEAD

At the beginning of 1938 lead was quoted at 4.75¢ New York and at £15¼ London. In both markets there were recessions in prices during the first half of the year with recoveries during the second half, the fluctuations being relatively unimportant. A great support of the foreign market was the large requirements of lead by Japan, a country producing very little of this metal from its own ores.

Even with the large demands for lead for military purposes and otherwise, production tended to exceed consumption. This led to a meeting of producers in London during the autumn and the formation of an international lead cartel, similar to the copper cartel, for the regulation of production. Participation in this cartel was in the main by the large, integrated producers, the custom smelters not entering into it nor the countries of Europe that are anxious to produce as much as they can from their own mines.

The consumption of lead in the United States in 1938 was about 70% of the rate during 1937. There were decreases under almost every head, the most severe being in the use for cable manufacture. However, the producers adjusted themselves to this situation by a reduction of production to an average rate of about 31,000 tons per month, and the stock of refined lead was reduced from 129,000 tons at the beginning of 1938 to about 115,000 tons at the end of November. While the statistical position in the United States was thus kept in good order, the same did not occur in the foreign position wherein during the first 10 months of 1938 production averaged 121,000 tons per month compared with 118,000 tons per month as the average for 1937. Consumption ex-U.S.A. was not so large as that and there was consequently an increase in stocks in first hands, wherefore the incentive toward arrangement of a cartel control. However, the equilibrium did not become seriously unbalanced.

At the end of December the market quotations for lead were 4.85¢ New York, and £15¼ London, so 1938 ended with about the same prices as at the beginning.

ZINC

At the beginning of 1938 zinc was quoted at 5¢ St. Louis and £14¾ London. The price receded during the first half of the year, falling to about 4¢ St. Louis and £12⅝ London, but in the second half there was recovery in both markets to about the prices at the beginning. There was, however, no bullish enthusiasm in either market for the reason that, in spite of the low scale of prices, production outside the United States was maintained at a high level, and the American price was restrained by the danger of inviting foreign importations that were neither needed nor wanted. There were some informal discussions in London in respect of reorganizing an international zinc cartel, but nothing came of them, the conflict of interests among producers being beyond any reasonable composition.

Toward the end of November the American market was surprised and shocked by announcement of the trade agreement between the United States and the Dominion of Canada, which included a reduction in the tariff on spelter from 1.75¢ to 1.4¢ per pound, and upon zinc in ore from 1.5¢ to 1.2¢ per pound. By the terms of other treaties the rights granted to Canada are enjoyed by all other countries except Germany. The effect of the reduction of tariff is to lower the import ceiling, effective Jan. 1, 1939. The American market immediately adjusted itself to the anticipated condition, the price of spelter falling to 4.5¢ St. Louis. An effect of this reduction will be to reduce the profit in the American zinc industry which has not for a long time been broadly profitable.

The production of spelter in the United States during the first 11 months of 1938 averaged about 37,500 tons per month compared with an average of about 50,000 tons per month in 1937. Deliveries for consumption that were at the rate of about 25,000 tons per month in the first half of the year rose to a rate of about 43,000 tons in the last quarter. Stocks in first hands were 65,000 tons at the beginning of 1938 and 121,000 tons at the end of November.

Outside the United States production during the first 10 months of 1938 averaged 104,000 tons per month compared with an average of 103,000 tons in 1937. There was probably an increase in stocks in first hands. The production of zinc in ore by mines outside the United States was probably more than the increase in the production of spelter, indicating an increase in the stocks of ore at the mills of origin. At the end of December the price for common spelter was 4.5¢ St. Louis and £14 London.

TIN

The situation in tin in 1938 continued mainly under the control of the international cartel of tin producing countries which, as of Jan. 1, 1937, renewed their agreement as to permissible tonnages for five years. The cartel is not in full control of the situation; outside of it are the producers of Argentina, Australia, Burma, China and Cornwall besides some sundries elsewhere. These non-restricting countries produced less than 14,000 tons per annum in 1931 when the cartel was first formed, whereas they are now producing upward of 30,000 tons per annum. Argentina has become a producer within that period.

The cartel rate of production was set at 70% of the standard in the first quarter of 1938 and at 50% in the second quarter. Following negotiations in the early part of 1938 the aggregate of standard tonnages was raised from 199.850 long tons to 207,900 long tons, Malaya and Netherlands East Indies being granted increases following complaint from those quarters where the curtailment of production was uncomfortable in many ways, especially in respect of disemployment of labor.

On the basis of the revised standard tonnages, as from July 1, 1938, the rate of production was set at 45% for the remainder of the year. This rate of allowable production provided for the creation of a buffer stock of about 15.000 tons with which the cartel could more effectively control the market.

The purpose of any cartel is to influence prices by the regulation of production to consumption. Experience has shown that this does not always operate with sufficient expedition; moreover there may be miscalculations in respect of prospective consumption. The introduction of a marketing pool into the system enables quick action to be taken, the buffer stock acting as a flywheel, metaphorically speaking.

The avowed purpose of the cartel pool in tin is to maintain the price between £200 and £230. That may not be an unreasonable range, its mean of £215 comparing with about £225 as the average for the prior four years. However, it is an arrangement that aims to put the price control in the hands of one party, and it remains to be seen how this is going to work.

The average price for tin in January, 1938 was 41.5¢ per pound New York, and £183.6 London. On the whole the markets were fairly steady, receding during the first half of the year and recovering during the second half, thus conforming to the general economic pattern. During December the rising market attained levels of 46¢ New York, and £215 London. The prices of 1938 were materially lower than in 1937. In the former year there was a substantial accumulation of "invisible" stocks in the hands of American consumers; and there was a further increase in the accumulation of this nature in 1938. This apparently has been an expedient of the American consumers in arranging a buffer stock of their own.

The economic recession of 1937–38 in the United States was troublesome to the tin producers for the reason that the United States is the largest consumer of tin, its normal use being nearly 50% of the world's total. About 95% of the tin used in the United States is for canning, and it is, therefore, a metal that is associated with immediate consumption, unlike copper, lead and zinc that are associated much more with the production of capital goods. Nevertheless, while the consumptions of copper, lead and zinc in the United States were in each instance about 70% of the rates in 1937, the consumption of tin was only about 62%. The explanation of this is that the canners overbought and overstocked themselves in 1937, carrying over a large inventory into 1938. At the end of 1938 they had reduced their inventories to low figures. Consequently the actual consumption of tin in the United States in 1938 probably did not fall off so much as the decrease in shipments from the tinplate manufacturers.

World's production of tin in 1938 will probably be found to have been about 150,000 tons, compared with about 208,000 tons in 1937. Deliveries of tin into the United States have been about 54,000 tons compared with about 84,000 in 1937. Visible stocks of tin at the end of November were 29,500 tons *vs.* 25,700 tons at the beginning of 1938.

Reference has been made hereinbefore to the new production of tin in Argentina, which is attaining respectable proportions. This is derived from a remarkable ore that is of high grade both in tin, and strange to say also in silver. By the conquest of Sudetenland the Germans acquired some ancient tin mines in northern Bohemia, but they do not amount to much. Japan has but little tin of its own production, and no doubt is anxious to get tin from China. The invasion of south China by the Japanese has given them the tin previously exported from Kwangsi and Kwangtung provinces, amounting to about 3,500 tons per annum.

At the end of December the quotations for Straits tin were 46¾¢ New York and £225 London, these being the highest prices of the year.

PETROLEUM

By Axtell J. Byles

President, American Petroleum Institute

GENERAL

Confusing and contradictory trends, with slightly reduced total volume of business and substantially curtailed net earnings, characterized the operations of the American petroleum industry in 1938. Domestic demand declined while exports increased. Crude oil production, well-drilling activities, and refining operations were below those of 1937. Prices, both of crude oil and refined products, moved to slightly lower levels. Further development of improved refining methods and the drilling of the first 15,000-foot oil well were among the technological achievements. Petroleum taxes continued at high levels, with the petroleum tax bill estimated again to account for more than 10 per cent of all taxes levied in the nation. Gasoline taxes alone were just under $1,000,000,000.

CRUDE OIL

World and Domestic Output.—Decrease of 5.2 per cent in production of crude oil in the United States accounted for the estimated 3 per cent decrease in total world production in 1938. Outside the United States production increased 0.6 per cent. World production dropped to 1,980,331,000 barrels compared with 2,042,038,000 barrels in 1937, the peak production year in the industry's history. The United States produced an estimated 1,213,000,000 barrels, 61.3 per cent of the world's total compared with 1,279,160,000 barrels in 1937.

PRODUCTION OF CRUDE PETROLEUM

(In barrels of 42 U. S. gallons)

Year	United States	Rest of World	Total World
1933	905,656,000	536,344,000	1,441,000,000
1934	908,065,000	613,380,000	1,521,445,000
1935	996,596,000	658,092,000	1,654,688,000
1936	1,099,687,000	702,099,000	1,801,786,000
1937	1,279,160,000	762,878,000	2,042,038,000
1938 (estimated)	1,213,000,000	767,331,000	1,980,331,000

Exploration and Drilling Activity.—The drilling of the first oil well more than 15,000 feet deep, the 15,004-foot K.C.L.A.-2 in Kern County, Calif., was typical of progress in the producing branch. An estimated 27,517 new wells were drilled in 1938, this total being appreciably lower than the drilling peak of 1937 when 32,805 wells were drilled. Oil was found in 19,388 of the new wells, and gas in 1,957; the rest were non-productive "dry holes." The 15,004-foot "deep hole" was the spectacular drilling achievement of 1938, and indicative of the perfecting of drilling technique which is enabling the industry to plumb new depths of the earth's crust in the search for oil. Wells over 10,000 feet deep, unheard of a decade ago, now are numerous. Deep-drilling promises to reveal new producing horizons both in unexplored territory and beneath currently developed areas.

WELLS COMPLETED IN THE UNITED STATES

Year	Oil	Gas	Dry	Total
1933	8,073	923	3,318	12,314
1934	12,520	1,368	4,309	18,197
1935	15,108	1,401	4,911	21,420
1936	18,523	2,070	5,297	25,890
1937	23,678	2,695	6,432	32,805
1938 (est.)	19,388	1,957	6,172	27,517

Storage.—The industry withdrew more crude oil from storage in 1938 than in any recent year, and the period ended with estimated stocks of 267,500,000 barrels, the smallest year-end carryover since 1922. Stocks of crude oil on Dec. 31, 1937 totaled 306,826,000 barrels. This reduction in crude oil stocks accompanied a decrease in domestic demand for both crude oil and refined products.

CRUDE OIL IN STORAGE AT END OF YEAR

(In barrels of 42 gallons)

1931	379,660,000
1932	339,715,000
1933	355,312,000
1934	337,254,000
1935	314,855,000
1936	288,579,000
1937	306,826,000
1938 (estimated)	267,500,000

Foreign Trade.—In contrast to the decline in domestic demand for crude petroleum, the industry is estimated to have exported more crude oil than in any previous year. Exports totaled 77,787,000 barrels, 15.7 per cent above the previous peak in 1937. Imports, on the other hand, decreased to an estimated 25,771,000 barrels, 6.2 per cent under 1937.

FOREIGN TRADE IN U.S. CRUDE PETROLEUM

(In barrels of 42 gallons)

Year	Imports	Exports
1933	31,893,000	36,584,000
1934	35,558,000	41,127,000
1935	32,239,000	51,430,000
1936	32,327,000	50,313,000
1937	27,484,000	67,234,000
1938 (est.)	25,771,000	77,787,000

Prices.—Crude oil prices, which held firm during the first part of 1938 at $1.22 a barrel for basic grades, late in the year sagged under the pressure of various economic factors. By mid-December prices had reached $1.02 a barrel, which was close to the 1935–1936 level.

PETROLEUM REFINING

Volume.—Although the total demand for the industry's major refined product, gasoline, increased slightly in 1938, the refining rate was not raised proportionately. Crude runs to stills dropped an estimated 1.5 per cent. Total crude oil runs by the nation's refineries are estimated at 1,165,742,000 barrels or about 18,000,000 barrels below the record-breaking 1937 total of 1,183,440,000 barrels.

CRUDE OIL PRICES

(Per barrel of 35 deg. A.P.I. gravity Mid-Continent oil)

Year	High	Low
1933	$1.00	$0.25
1934	1.00	1.00
1935	1.00	1.00
1936	1.10	1.00
1937	1.22	1.10
1938[1]	1.22	1.02

[1] Up to Dec. 15, 1938.

CRUDE OIL RUN TO STILLS

(In barrels of 42 gallons)

1933	861,254,000
1934	895,636,000
1935	965,790,000
1936	1,068,570,000
1937	1,183,440,000
1938 (estimated)	1,165,742,000

Motor Fuel.—A small decrease in the number of motor vehicle registrations, added to the other effects of business recession on gasoline consumption, curtailed the domestic demand for motor fuel. However, a 26 per cent increase in exports raised total demand to a little more than 1 per cent above 1937. This increase was met largely by withdrawals from storage, refinery production of motor fuel declining a little more than 2,000,000 barrels. Total production in 1938 is estimated at 556,882,000 barrels, down only 0.4 per cent from the 1937 total, the industry's peak year.

MOTOR FUEL PRODUCED IN U.S. REFINERIES

(In barrels of 42 gallons)

1933	401,591,000
1934	416,932,000
1935	457,842,000
1936	504,811,000
1937	559,141,000
1938 (estimated)	556,882,000

Refinery Operation.—The number of refineries in operation in the United States rose slightly in 1938, the total increasing from 431 in 1937 to an estimated 440 in operation Jan. 1, 1939. This change, however, does not adequately reflect the immense sums spent by the industry last year, as in earlier years, for plant modernization and refinery research. Further progress was made in extending and expanding equipment of polymerization of gases to make high-octane motor fuel. Polymerization also made possible on a commercial scale the production of chemically pure glycerin from gases, one long step nearer the development of a great American petroleum industry. Catalytic refining, developed on a commercial scale during 1938, gave indications of providing refiners with another basic process. It promises increased flexibility of operation and the economic production of those products whose demand fluctuates with the seasons or changes with the years. Other promised advantages are large-scale manufacture of high-octane aircraft fuels and the possibility of utilizing more advantageously a wider variety of crude oils.

REFINERIES IN OPERATION IN THE UNITED STATES

January 1, 1933	372
January 1, 1934	454
January 1, 1935	435
January 1, 1936	422
January 1, 1937	423
January 1, 1938	431
January 1, 1939 (estimated)	440

Refined Products.—Gas oil and distillate fuel oil were among the few refinery products for which increased production was recorded in 1938. The total output of gas oil and distillate is estimated at 153,108,000 barrels, up 4.4 per cent or 6,402,000 barrels from the 1937 total. Residual fuel oil production is estimated at 297,209,000 barrels, a decline from the 312,064,000 barrel total of 1937. Production of other refined petroleum commodities, such as kerosine, lubricants, waxes, asphalts, road oils, etc. is estimated approximately at the 1937 level.

GAS OIL AND FUEL OIL PRODUCED IN U.S. REFINERIES

(In barrels of 42 gallons)

Year	Gas Oil and Distillate	Residual Fuel Oil	Total Fuel Oil
1933	78,920,000	237,519,000	316,439,000
1934	94,972,000	240,381,000	335,353,000
1935	100,235,000	259,826,000	360,061,000
1936	125,906,000	287,968,000	413,874,000
1937	146,706,000	312,064,000	458,770,000
1938 (estimated)	153,108,000	297,209,000	450,317,000

Foreign Trade.—Export demand for refined petroleum products in 1938 increased 7.3 per cent over 1937. The 1938 total, 113,935,000 barrels, was the highest since 1930. A 7.8 per cent decline was recorded in imports of refined products which dropped to 27,366,000 barrels from the 1937 level of 29,673,000 barrels.

FOREIGN TRADE IN REFINED PETROLEUM PRODUCTS

(In barrels of 42 gallons)

Year	Exports	Imports
1933	70,143,000	13,501,000
1934	73,380,000	14,936,000
1935	77,557,000	20,396,000
1936	81,687,000	24,777,000
1937	105,600,000	29,673,000
1938 (est.)	113,935,000	27,366,000

MARKETING

The industry's marketing division, with more than 30,000 wholesale outlets and bulk plants and over 225,000 service stations, continued to provide motorists and other users of petroleum products with uninterrupted service. Reacting normally to business recession, the domestic demand for petroleum products decreased slightly. Demand for domestic heating oil in 1938 recorded the first decline in demand in 18 years. Unprecedentedly warm weather offset consumption demands of the 155,000 new oil burners installed in 1938. These new domestic installations, plus the installations of industrial oil-burning equipment, raised the total number of oil burners operating at the end of 1938 to about 1,730,000, up 80.000 from 1937.

MOTOR FUEL DEMAND

(In barrels of 42 gallons)

Year	Domestic Demand	Total Demand
1933........	380,494,000	409,815,000
1934........	410,339,000	435,025,000
1935........	434,810,000	465,423,000
1936........	481,696,000	510,252,000
1937........	519,352,000	557,658,000
1938 (est.)...	516,500,000	565,077,000

GAS OIL AND DISTILLATE FUEL OIL DEMAND

(In barrels of 42 gallons)

Year	Domestic Demand	Total Demand
1933........	64,748,000	76,172,000
1934........	74,824,000	89,330,000
1935........	86,018,000	102,277,000
1936........	102,757,000	123,205,000
1937........	116,841,000	146,970,000
1938 (est.)...	115,436,000	143,257,000

RESIDUAL FUEL OIL DEMAND

(In barrels of 42 gallons)

Year	Domestic Demand	Total Demand
1933........	258,957,000	268,096,000
1934........	265,547,000	279,646,000
1935........	280,695,000	293,394,000
1936........	307,884,000	322,319,000
1937........	325,514,000	340,818,000
1938 (est.)...	287,604,000	305,725,000

ESTIMATED NUMBER OF OIL BURNERS IN OPERATION

End of Year	Domestic	Industrial	Total
1933........	920,300	34,300	954,600
1934........	1,014,100	47,100	1,061,200
1935........	1,154,700	60,600	1,215,300
1936........	1,357,100	77,200	1,434,300
1937........	1,554,000	95,100	1,649,100
1938 (est.)...	1,623,800	106,000	1,729,800

PRICES

Petroleum maintained its long-established position at the bottom of both the wholesale and retail commodity price indices in 1938. The wholesale price level moved to a point more than 43 per cent below normal, as compared with the U.S. Department of Labor's index for all commodities, which was only 22 per cent below normal.

INDEX OF WHOLESALE PRICES

(1926 = 100)

(U. S. Bureau of Labor Statistics)

Month	Petroleum Products	All Commodities
1937—July..........	61.8	87.9
August........	62.0	87.5
September.....	62.2	87.4
October.......	61.7	85.4
November.....	60.6	83.3
December.....	59.5	81.7
1938—January.......	58.8	80.9
February......	58.0	79.8
March........	57.9	79.7
April.........	57.5	78.7
May..........	56.4	78.1
June..........	56.3	78.3
July..........	56.8	78.8
August........	56.7	78.1
September.....	56.4	78.3
October.......	53.8	77.6
Year—1936..........	57.3	80.8
1937..........	60.5	86.3
1938 (10 mos.).	56.9	78.8

The retail price of gasoline (exclusive of taxes) declined to 14.07¢ a gallon, the average of 50 representative cities. This was 33 per cent below normal, and lower, compared to government retail price indices, than any other basic commodity. The average of gasoline taxes, however, rose slightly, to 5.44¢ a gallon.

MOTOR FUEL PRICES, TAXES, AND COSTS

Year	Average Retail Price	State and Federal Taxes	Average Total Cost per Gallon to Consumer
1933....	$.1241	$.0541	$.1782
1934....	.1364	.0520	.1884
1935....	.1355	.0529	.1884
1936....	.1410	.0535	.1945
1937....	.1458	.0540	.1998
1938....	.1407	.0544	.1951

GASOLINE TAXES

State and Federal taxes again largely discounted the benefit of reduced gasoline prices. The average of state and Federal gasoline taxes in 1938 was equivalent to a sales tax of nearly 39 per cent. Total cost of gasoline taxes in 1938 is estimated at just under $1,000,000,000, representing little, if any, change from the 1937 total.

GASOLINE TAXES PAID BY CONSUMERS

Year	State	Federal	Total
1932	$513,047,239	$62,839,827	$575,887,066
1933	518,195,712	181,125,988	699,321,700
1934	565,027,000	170,109,269	735,136,269
1935	616,851,671	172,262,481	789,114,152
1936	686,631,000	186,321,448	872,952,448
1937	756,930,000	203,025,380	959,955,380
1938 (estimated)	758,177,000	200,000,000	958,177,000

For the average consumer the cost of gasoline, exclusive of taxes, has been reduced to a point where the average annual consumption, 718 gallons in 1938 (based on the number of motor vehicles of all types in use, not on total registrations), cost $101.09. This is only 24¢ more than the 1925 cost of 216 gallons less. Taxes, however, jumped in this 13-year period from $10.59, only 9.5 per cent of the total bill, to $39.06, nearly 28 per cent of the average motor vehicle owner's total gasoline bill.

ESTIMATED ANNUAL COST OF MOTOR FUEL AND TAXES PER CONSUMER

(Based on average number of motor vehicles in use each year)

Year	Annual Consumption per Vehicle (Gallons)	Cost of Fuel	Cost of Taxes	Total Cost to Consumer
1925	502	$100.85	$10.59	$111.44
1929	619	110.92	21.67	132.59
1935	677	91.73	35.81	127.54
1937	728	106.14	39.31	145.45
1938	718	101.09	39.06	140.15

PETROLEUM TAXES AND EARNINGS

Although the petroleum industry's investment is only about 4 per cent of the total national wealth, for many years it has paid and collected more than 10 per cent of the total of all taxes collected by all Federal, state, and local governments. Preliminary figures indicate that in 1938 the industry continued to supply this disproportionate share of the nation's growing tax burden. The total 1937 petroleum tax bill amounted to $1,314,865,361, a sum nearly as great as the industry's annual pay roll. The industry's net earnings in 1937, $700,536,000, were only about half the tax total, yet were the highest in nearly 20 years.

Preliminary estimates indicate that the industry's 1938 net earnings will be substantially below those for 1937, yet the tax bill will be approximately as high. In the 17 years from 1921 to 1937, the industry produced $10,530,801,742 in taxes. Net earnings aggregated $3,815,057,975 or only 36 per cent as much as taxes. Based on the industry investment, $14,525,000,000, the petroleum tax rate is nearly twice the rate of earnings.

PETROLEUM INDUSTRY EARNINGS AND TAXES

Year	Investment	Net Earnings	Per Cent Earned	Total Taxes
1933......	$12,300,000,000	$90,097,000	0.73	$1,004,824,000
1934......	12,700,000,000	199,304,000	1.57	1,046,149,675
1935......	13,276,000,000	310,505,000	2.34	1,121,936,698
1936......	13,775,000,000	500,664,000	3.63	1,180,876,256
1937......	14,525,000,000	700,536,000	4.82	1,314,865,361

PETROLEUM RESERVES

Again in 1938 a re-survey of known underground reserves of petroleum by a committee of the American Petroleum Institute revealed a higher total than at any period in the industry's history. As of Jan. 1, 1938, this underground storage totaled 15,507,268,000 barrels, an increase of nearly 2,500,000,000 barrels from the inventory of one year before. This increase is noted after accounting for the peak crude oil production of 1,279,000,000 barrels in 1937.

The new estimate makes no allowance for possible reserves in untested areas and represents only the amount of petroleum which may be produced by present known methods from completely developed and drilled fields or from fields sufficiently drilled and explored to permit reasonably accurate calculations.

EMPLOYMENT AND PAY ROLLS

The Petroleum industry employs directly, it is estimated, 1,000,000 workers whose annual wages total close to $1,500,000,000. Wages and working conditions in the industry continue better than the national average for all industries.

PROVEN PETROLEUM RESERVES OF THE UNITED STATES

(As of Jan. 1, 1938)

(In barrels of 42 gallons)

California..................	3,063,142,000
Rocky Mountain States	
Wyoming................	265,922,000
Montana..................	109,378,000
Colorado.................	19,125,000
New Mexico (N.W.).......	5,414,000
	399,839,000
Central and Southern States	
New Mexico (S.E.).......	541,173,000
Texas....................	8,247,928,000
Oklahoma................	1,212,252,000
Kansas...................	601,317,000
Arkansas................	192,101,000
Louisiana...............	713,434,000
	11,508,205,000
Eastern States	
Illinois....................	40,884,000
Indiana..................	2,622,000
Kentucky................	38,366,000
Michigan................	49,181,000
New York...............	60,535,000
Ohio......................	28,456,000
Pennsylvania............	287,886,000
West Virginia...........	28,152,000
	536,082,000
Total — United States......	15,507,268,000

PERIODICAL PUBLICATIONS

American Gas Journal
53 Park Place, New York City.

American Mineralogist
Menasha, Wis.

Chemical and Metallurgical Engineering
330 West 42nd. Street, New York City.

Coal Age
330 West 42nd. Street, New York City.

Engineering and Mining Journal
330 West 42nd. Street, New York City.

Fueloil Journal
420 Madison Ave., New York City.

Iron Age
239 West 39th. Street, New York City.

Metal Industry
116 John Street, New York City.

Metal Progress
7016 Euclid Ave., Cleveland, O.

Metals and Alloys
330 West 42nd. Street, New York City.
Mining and Metallurgy
29 West 39th. Street, New York City.
National Petroleum News
1213 West Third Street, Cleveland, O.
Natural Gas
4 West Seventh Street, Cincinnati, O.
Oil and Gas Journal
114 West Second Street, Tulsa, Okla.
Oil Weekly
3301 Buffalo Drive, Houston, Tex.
Petroleum Engineer
405 Tower Petroleum Building, Dallas, Tex.
Petroleum World
Bendix Building, Los Angeles, Calif.
Steel Facts
350 Fifth Ave., New York City

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 1852, Tulsa, Okla.
AMERICAN GAS ASSN., 420 Lexington Ave., New York City.
AMERICAN INSTITUTE OF MINING & METALLURGICAL ENGINEERING, 29 W. 39th Street, New York City.
AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.
AMERICAN MINING CONGRESS, 841 Munsey Bldg., Washington, D.C.
AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.
AMERICAN PETROLEUM INDUSTRIES COMMITTEE, 50 West 50th Street, New York City.
AMERICAN ZINC INSTITUTE, 60 E. 42nd Street, New York City.

DIVISION XIII
MANUFACTURES AND TRANSPORTATION

CONDITIONS IN MANUFACTURING

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GENERAL

A year of striking contrasts, such has been the industrial chronology of 1938. Begun in a slough of despond that deepened until almost midyear, industry reversed its downward course and ended in a blaze of improvement. With this phenomenon, unnerving pessimism had given way to unswerving optimism, just at the moment when it long since had become fashionable, anyway, to look hopefully toward the dawn of a new year. And not without some cause, this time. Where 12 months earlier all seemed to have rested on quicksands, seemingly now, at the dawn of 1939, bedrock had been struck on which is rearing a new industrial expansion, new hope for rapprochement between government and business, new promises by which men live. Paradoxically, in this very rise, reflective minds once again are questioning the duration, the amplitude and the timing of its indeterminate, yet no less certain, reversal. One probability stands out above all others; almost regardless of what happens either on the domestic or on the international stage, short of a major war, industrial output in 1939 will average substantially higher than in 1938. But that the level of industrial activity can attain to the average for 1937 is extremely dubious, despite the bettering outlook for construction, shipbuilding, aircraft manufacture, automobiles, and even shipbuilding.

It is in times such as these, when men are called upon to face new hazards, domestic and foreign, that optimism is necessarily restrained in deeds, if not in words. And it is in this restraint that such questions as high taxes, mounting government debt, high unemployment, relatively low national income, do their tell-tale work of setting the ceiling for industrial expansion. Even this would not be half so bad were it not for a dastard madness that is increasing its strangle hold on world economic, social and political institutions. Optimism on the domestic outlook is thus rather pardonably temperate, for on four continents, in Europe, Asia, Africa, and, either because of or in spite of the Lima Conference, even in South America, there is struggle for place under the economic and political sun. Under the manifestations now so clearly defined, is it not wise to reckon with the probability of far-flung repercussions in the not too distant future?

The die seems cast, making more difficult the problem of providing useful and productive work for upwards of 10,000,000 idle hands and billions of idle money, more arduous the task of restoring our national income to a level consonant with our requirements of a much vaunted high living standard, more burdensome the problem of taxes and almost impossible the attainment of a balanced budget before the next industrial tailspin hurtles us earthward.

INDEX OF INDUSTRIAL PRODUCTION

Where ionization of industry was negative after mid-1937 for the remainder of that year and well into 1938, the reverse was true after mid-1938. Inheriting a progressively worse condition as 1937 became history, the year 1938 began with a level of industrial output that was not only 5 per cent lower than in the previous month, December, 1937, but was 30 per cent behind the volume recorded for January, 1937. Worse still, the index of industrial activity for January, 1938 was 20 per cent below the average level for the years, 1923–1925, when the nation's population was smaller by some 17,000,000 persons who had somehow to be clothed, fed and housed. And this was not all, for by mid-1938 the index had fallen further by 5 per cent from the level recorded only five months earlier, having receded in May to a point 24 per cent below the plane of the middle 1920s. At this nadir of 1938, industrial activity had all but lost the gains in output recorded since the dark days of 1932 and 1933. In the nine months from August, 1937 to June, 1938 the flow of goods from mines and factories had been cut by 35 per cent, while in the worst previous depression, the one ushered in with the collapse of speculation in 1929, it took almost two years to give us such a serious nose-dive.

Why it is, in the face of this devastating tailspin, men continue to argue and labor the point as to whether this latest disruption was a depression or only a recession, except perhaps for sonorous reasons, may better be answered by an esoterist than a dialectician. It may well be that the real answer requires the best thought of both. Be that as it may, it is of equal import to record that, save for the experience of the spring of 1933, no year, in the memory of men now living, experienced such an electrifying upward reversal as occurred from June, 1938 onward. By November, industrial activity had surged forward, on the same Federal Reserve Board seasonally-adjusted index, by more than 35 per cent, attaining a level that was 3 per cent above the 1923–1925 average, and recording a gain over the November, 1937 index of 17 per cent.

Yet as the year 1938 ended, evidences were many that the rate of improvement was measurably decelerating and even pausing for needed appraisal of the meaning of the new position. Where in the initial half of 1938 the index averaged 78 (1923–1925 = 100), the average for the final half of the year was about 93, with the result that for the year as a whole, industrial activity, measured by the index, averaged 85, as contrasted with an average of about 110 for 1937, 105 for 1936, 90 for 1935 and 79 for 1934. Despite the electrifying recovery during the final half of the year, the 1938 average of physical output of industry was only one-third higher than the average for 1932, the bottom year of the great depression. And it must even here be remarked that the 1938 population was greater by some 5,000,000 than it was in 1932.

CONSUMERS' GOODS

For the most part, the consumers' goods industries resisted better the forces of depression than did the heavy lines. In shoes, for example, the 1938 output was only 6 per cent lower than in 1937. For apparel wools, the 1938 consumption was within 16 per cent of the 1937 total. For carpets and rugs, the overall decline in productive volume was much steeper, but large promise for rapidly bettering conditions existed in the almost certain further expansion in industrial payrolls and in residential building.

Cotton consumption, despite the low price level, was 20 per cent lower than in 1937, though once again it was the cotton textile lines that early gave evidence in 1938 of the bettering outlook for business and industry. The output of slaughtering and meat-packing establishments did remarkably well during the year; taking this industrial group as a whole, as seen from the Federal Reserve Board's index of production, output was 108 per cent of the 1937 total. As has been rather commonplace, cigarettes during the year forged still another link in the apparently endless chain of new high levels of output and consumption. Automobile tires during the latter months of 1938 were produced in such volume as to do much to wipe out the large losses shown during the initial half of the year, yet the result for the full year was a total only 72 per cent of the 1937 total. In its bearing on 1939 it is quite apparent that the continued improvement in industry should mean a gain in automobile tire production in excess of 10 per cent, to say nothing at all of increased consumption of rubber in the output of mechanical goods and in the development of new uses.

PETROLEUM AND REFINERY PRODUCTS

From both the standpoint of production and consumption the petroleum industry was hardly touched by the depressant forces that had gripped most other basic industries in late 1937 and early 1938. But that is only part of the story, for it is one thing to produce and market a product, and another to perform these functions at a profit. On this score, the industry suffered measurably in 1938, chiefly because of price declines, both as to crude oil and refinery products, chiefly gasoline.

At the 1938 year-end crude oil stocks were lower than they have been at any similar period in about 15 years, while surplus inventories of refined products, which earlier in the year had much to do with the costly price disruptions, toward the year-end, began to take on manageable proportions once again. To assure further improvement on this score the industry seems determined to keep crude output in balance with current demand by further continuance of proration which has worked so relatively well in recent years.

With an industry that in 1938 was able to hold at least 95 per cent of its domestic custom and to increase its foreign business by upwards of 10 per cent, it is all but certain that 1939, given close gearing between production and consumption factors, will show restoration of the profit level commensurate with a consumption that now promises to make new high records, particularly for gasoline, the principal refinery product. Further additions to the markets for crude are likely in the coming year from more extensive use of fuel oil, now that business is again on the upgrade and personal and corporate incomes are improving.

ELECTRIC UTILITIES AND RAILROADS

Due to the intense contraction in industry during the early months of the year, the output of electric power in 1938 suffered a decline of about 5 per cent from the volume of the preceding year. But this is as nothing when contrasted, let us say, with a shrinkage for the great steel industry of about 44 per cent or with a loss for automobile output of almost 50 per cent. Against the fact of decline may be set the fact that, when 1938 was drawing to a close, the electric power industry had regained its poise and recorded a new all-time weekly high total of production.

Despite this striking record, there remained at the year-end the plague of government on two all-important questions: taxes and government competition. If only these nightmares could be shaken off, the industry, what with the rapid approach to capacity operations, would once again be ready to embark upon a long-range plan of plant rehabilitation and extension that could go a long way to provide needed stimulus to the capital or durable goods industries. Perhaps it will take the coming broadened plan of national defense to show government the wisdom of relieving this necessary industry from the punitive disciplines that have been employed, even though some of them were rather soundly conceived.

Few years, if indeed any year, have seen the heart-rending despair that gripped the railroad industry in 1938, but it should be added at once that few have been the years in recent times that seem to offer the railroads such hope as appears for 1939. Though the railroad problems are largely financial, restored to a higher level of freight movements, much of their recent grief would disappear and they would be put in a position to modernize their plant and equipment on a scale that could do much to revive activity in the now foundering equipment industries. This is a problem that promises to tax the ingenuity of Congress for months to come.

It is an altogether healthy indication that the railroads themselves in 1938 reasoned through some of their own problems. In the first place, their stand on the question of wage reductions, which they reluctantly retreated from, seemed at least to bring home the fact that railroads can thrive only on traffic and not out of penny-pinching. In the second place, it was encouraging to note that more railroads had come to recognize, as to passenger travel, that it is far better business to carry volume than to worry about mileage rates, especially at a level that tends to reduce volume of travel. Whether or not the nation is to take seriously the postalizing plan for railroad travel and traffic proposed by Senator Hastings of the New York State Senate in his Christmas morning full-page advertisement, the fact remains that in the railroad industry, as in all industry, it is price times volume that really counts.

IRON AND STEEL

The production of pig-iron, onetime faithful barometer of industrial weather, barely reached 19,000,000 tons in 1938, representing a shrinkage of 49 per cent from the 1937 volume, and being only little better than the total of about 16.000,000 tons for 1934, the first full year of recovery from the depression of 1929–1933. November was the peak month of production in 1938; in 1937, August was the peak month. The 1938 peak was smaller by 36 per cent than the 1937 peak. June was the month of lowest production in 1938, while in 1937, the lowest ouput occurred in December. The high month for 1938 was 210 per cent of the low month for the year; in 1937, the high month was 240 per cent of the low month of that year. The total output for the final six months of 1938 was 58 per cent of the year's total; in 1937, the final half-year's total was only 46 per cent of that year's aggregate output. But more significant is the fact that, as 1938 ended, more blast furnaces were in operation than at the 1937 year-end, auguring well for the early months of 1939, for it is costly business to blow in a blast furnace on mere hopes of better demands for pig iron.

Steel ingot production in 1938 exhibited characteristics similar to those in the case of pig iron. The year's total amounted to about 28,500,000 tons, representing a loss of 44 per cent from the 1937 volume of 50,600,000 tons. The aggregate output, likewise, had fallen back in 1938 to within striking distance of the 1934 figure of about 25,600,000 tons. Steel-plant operations in 1938 were practically the reverse of the condition in 1937. Beginning at an extremely low level, operations for the entire first half averaged only little better than 30 per cent of plant capacity; in the initial half of 1937 the average productive level was 85 per cent of capacity. In the final half of 1938 the average was little less than 50 per cent; in the final quarter of the year the average operating ratio had improved to about 57 per cent, contrasting with a ratio of 41 per cent for the final quarter of 1937. Taking the year as a whole, the 1938 operating ratio was about 40 per cent to capacity, as contrasted with 72 per cent for 1937. It is worthy of note, too, to mention, that except for the years of the great depression, only one other year in the current century produced less steel than the year just ended.

The month of highest activity in 1938 was November, which showed an operating ratio of 62 per cent; this contrasts with the 1937 high shown in April of that year, when the operating rate averaged 90 per cent. But there is real encouragment in the fact that the rise in steel operations during the closing quarter of 1938 was the most dynamic of any shown since

1921. While at the year-end a seasonal slough in operations occurred, the ratio was significantly higher than at the end of the previous year, with indications pointing to further substantial resumption of the upward trek to come out of broadened demands from the automobile industry, from construction, from an improved outlook for the railroads, and from the impacts of a well-ordered program of national defense.

No more striking commentary of the vicissitudes that have beset this basic industry can be made than that, in the nine years, 1930–1938, aggregate earnings of the entire industry averaged only about 1½ per cent on total capital investment, a significant contrast with an annual average of about 5½ per cent for the 1920 decade. And it is of like importance to note that the current decade, to end with 1939, is the first one, in all the decades since the industry doffed its swaddling clothes, to fail to record a new high aggregate of steel output.

In 1938, however, plant modernization continued, with further progress in this direction probable in 1939. Because of this trend steel can now be produced much more cheaply than a decade or so back, applicable, of course, only as to the newer plants and methods. To bring unit costs down for the entire industry much additional modernization of plant and processes must be undertaken, which will be done on a wholesale scale only when the industry is assured of a more enduring basis of industrial recovery than that which has been witnessed during the 1930's.

The year 1938 witnessed the abandonment of the basing point differential price system, which had provided for the pricing of steel products on the basis of Pittsburgh, prices rising in the basing points approximately in proportion to the shipping distance from Pittsburgh. This system, itself, had displaced the outlawed "Pittsburgh plus" system by which steel products had been priced as of Pittsburgh plus freight costs to the point of actual production. Thus it is clear that, in essence, the basing point principle had retained much of the fiction of the older "Pittsburgh plus" system. Small wonder that the abandonment of this practice and the consequent pricing of identical items at identical prices at all important producing centers, with the sole exception of Detroit, should have had a disruptive temporary influence in the industry and even among steel consumers. Especially was this true because it occurred at the very time that serious price wars had already undermined the price structure for steel items. The cancellation of the basing point principle already has had the effect of making more difficult the position of smaller, less efficient steel producers, who, under its benign influence, were rather well able effectively to compete with the larger and more efficient factors in the industry.

In spite of the poor operating conditions early in the year, wage rates in 1938 remained stationary, though of course fewer men were on the payrolls. It is a credit to the industry to indicate that, though production during the declining period of 1938 had fallen by more than 50 per cent, employment had receded by less than 30 per cent. Besides price differentials, the industry has long maintained wage differentials, especially at the more remote plants as to sources of raw materials and even as to the ultimate customers for finished steel items. As the year ended, this system came into question with the ruling on the part of the U.S. Department of Labor, pursuant to powers granted in the Walsh-Healy Act, requiring all bidders on steel for use on public works to pay a minimum wage of 62½ cents per hour, as to steel producers in the North and West, and of 45 cents per hour as to mills in the South. Here is a heritage that promises to plague further the smaller producers.

NON-FERROUS METALS

Deliveries of tin to consuming establishments totaled about 52,000 tons in 1938. This was a shrinkage of some 38 per cent from the total for 1937. As the year drew to a close improvement in indicated tin consumption was slow, but signs point to rather substantial gains in the new year.

The output of zinc at primary plants showed a decrease in 1938 of approximately 23 per cent from the 1937 production total. At the year-end fewer retorts were in operation than at the end of 1937, while refinery stocks were materially higher than at the 1937 year-end.

Consumption of copper in the United States suffered a material setback from the relatively high level of 1937, but as the year wore on consumption exceeded the production rate, with the result that, at the year-end, domestic inventories were materially lower in relation to the current consumption rate. Prices were quick to reflect this betterment.

Nickel consumption was somewhat lower than in 1937, but the percentage of loss was much less severe than was the overall shrinkage in industry. For the most part this was due to widening uses for nickel, especially in the field of alloys, for which much promise for 1939 exists.

Aluminum gave a relatively good account of itself in 1938, thanks chiefly to broadened markets and the rapid pace of the aircraft industry. Extending its arm into fields previously more or less closed to it, aluminum promises to play an increasing role in the field of housing, marine construction, railroad equipment, diesel engines, and in the automobile.

Though lead consumption suffered sizable reduction from the 1937 volume, toward the close of the year much of the grief had been washed away, with all indications pointing to materially enlarged consumption for 1939, in part due to better prospects for construction and in part due to the better outlook for automobiles.

AUTOMOBILES

Quite unlike conditions in the spring of 1933 when improvement in automobile production had heralded the turn of the industrial tide, this industry in 1938 was one of the last of the major lines of manufacture to partake of the elixir that had stimulated the economy generally. This time it was not the leader but rather the follower, partly because of the new timing for presentation of new models, but more especially because of the very heavy inventories of new cars, as well as used ones, which were inherited from overstimulated production and selling campaigns during 1937. Without significant interruption, each month of 1938 showed lower output than was recorded in the month next preceding, through September, when seasonal factors incident to the coming showing of new models, more than any appreciable improvement in sales prospects, accounted for the upward reversal that then continued for the remainder of the year. However, it was not until December that the total output of cars and trucks exceeded, by any substantial amount, the volume reported for the corresponding month of 1937.

Contrast this performance with conditions in the cotton textile industry, which started its upward trek toward better times in May, and which, in October, had surpassed the figure for the previous October. For all intents and purposes manufacturing activity in both lines started their toboggan of 1937 at about the same time, *viz.* April, 1937. Compare the recent performance of the automobile industry with conditions in the steel industry. In this instance it will be seen that steel activity started its climb in July of 1938. Even residential building activity, on which depends the fortunes of manufacturers engaged in the production of a myriad of materials and equipments, outshone the automobile industry and, in fact, most other basic fields; in the case of residential building, practically without interruption, the trend was consistently upward throughout the year, crossing in August the figure for the corresponding month of 1937.

This contrast with residential building is the more striking when it is indicated that for the year 1938 the residential building volume exceeded, by some 5 per cent, the total of the previous year, marking the high point of the recovery move; automobile output in 1938 was only about 55 per cent as great, in units, as it was in 1937, having descended to a level below that shown for 1934, itself, a rather nondescript business year, for then industrial output as a whole had shown an index of only 79, (1923–1925 = 100). True it is that, with all the improvement in residential building that was shown in 1938, the volume was far below the accustomed totals of the 1920's, while automobile output in 1937 had already come within striking distance of the peak year 1929. Meanwhile, in some respects, it is unfortunate that since 1933 there has not been the benefit of the rhythmic and harmonic timing between these two regenerative fields of economic endeavor that so characterized the 1920's. Had this been the case much of the present growing concern over such problems as unemployment and the national income need not have been so menacing.

CONSTRUCTION

Construction in 1938 outperformed all other basic industries. Somewhat ruffled earlier in the year by the declines everywhere around it, this industry quickly threw off its despondency and finally finished the year with a total volume that was almost 8 per cent greater than the figure for 1937, thus completing five years of uninterrupted annual gains. Much of the glory for this performance must go to the pump-priming activities of the Federal Government, which once again came into prominence in the spring of the year. Credit, too, must be given to the more liberal terms of housing finance provided by the Federal Housing Administration as to mortgage guarantees, both as respects small dwellings and large-scale rental housing projects. Nevertheless, it was the construction of facilities, other than residential types, that accounted chiefly for the total gain shown for construction as a whole.

Residential building alone showed an increase of about 5 per cent, and on the basis of the figures of F. W. Dodge Corporation, covering the 37 States east of the Rockies, this class of construction represented only about 31 per cent of the construction total in that area. The remaining 69 per cent embraced all classes of nonresidential buildings and civil engineering projects, where the greatest incidence of the pump-priming activities of government was felt. Of the nonresidential building types, the purely private classes, *i.e.*, commercial buildings and factories, failed to partake of the general gains over 1937. This was a natural phenomenon when viewed from the standpoint of the sharp recession in trade and industry that took place in 1938.

Quite in keeping with conditions in the construction industry, manufacturing operations in plants producing building materials and equipment took their cue from the changing fortunes in construction. But for heavy inventories that were inherited from the 1937 period operating schedules of most manufacturers would have been at even higher levels toward the end of 1938 than was actually the case. At the turn of 1939 some considerable quickening in materials production appeared certain out of the relatively large backlog of construction contracts with which the new year began. And this is to say nothing of the likelihood of even larger construction totals for 1939 than any thus far recorded in the current building cycle. Though further improvement in demand for materials thus appears likely, it is extremely dubious that any substantial price advances will occur, this as much because of the current monopoly investigation as to the probability that most manufacturers have not so soon forgotten their last excursions in price-kiting during the early months of 1937.

MACHINERY AND EQUIPMENT

At this stage in the chronology of manufacturing activity in 1938, it is well to state briefly that most lines of machinery and equipment manufacture partook of the bitter dosage of industrial toxins which had overtaken manufacturing processes early in the year. Foundry equipment, machine tools, oil burners, coal stokers, air-conditioning equipment, industrial trucks, overhead cranes, water-softeners, and even mechanical refrigerators succumbed, in varying degrees, before the attacks of the virus. First spottily, then more generally, as the year approached its end, signs multiplied, pointing to better days for machinery and equipment manufacturers. And in this bettering outlook the National Defense program will play a leading part, both because of the effects of so-called educational orders to industry and because of the needs for retooling in connection with ordnance, aircraft, and shipbuilding requirements.

EMPLOYMENT AND WAGES

As was rather to be expected in a year of sharp industrial reaction, the figures on labor disputes during 1938 were favorable by contrast with those for 1937, there having been less than half the number of controversies than in 1937. The contrasts with 1937 were even more striking on the basis of man-days lost and number of workers involved; in the first instance the decline from 1937 was about 75 per cent and in the latter case, the decline was more than 60 per cent. As the year closed, industrial employment reflected the improved levels of industrial output, yet the burden of unemployment still weighed heavily on the economy. And so long as millions of workers are idle, the level of the industrial production index notwithstanding, relief payments will necessarily be high.

Though no material general reductions occurred in the wage level, there were many individual instances of cuts in wage rates below those that existed in 1937. But in many instances these rates have since been restored. Workers, however, do not buy food and clothing on rates alone —there must be real income. And on the income side there was a very real decline in aggregate industrial payrolls, which quite understandably was reflected in lowered volumes of retail trade during the early months of the year.

That the public has become sated with the questionable tactics of the sit-down, the quickie, and the other streamlined mechanisms recently employed by labor to gain its objectives is a healthy indication on the labor ledger. But against this must be set the apparent unwillingness of the C.I.O. and the A.F. of L. to compose their respective grievances. And no warfare in the sphere of labor can do labor nor industry as much harm as strife between its leading factions. The true meaning of the newly-enacted Wages and Hours Law which has put a floor under wages and a ceiling above working hours may likely be indicated sometime before the current recovery movement goes into reverse.

INDUSTRIAL EARNINGS AND DIVIDENDS

Industrial profits during 1938 were generally low. But for the final quarter a number of industrial units were able to better their respective performances for the corresponding period of 1937. The aircraft manufacturing industry was almost alone to show 1938 profits in excess of those for the previous year. Of all the important industries, perhaps the most severe losses in earnings were shown for the automobile and steel companies. Naturally, with such a record for earnings, dividends to stockholders suffered commensurately. But, in both respects, the 1939 prospects are much brighter, and for some individual lines of manufacture, it should occasion little surprise if 1939 earnings exceed even the creditable returns of 1937.

NEW INDUSTRIES

While industry was in its 1938 coma, technology marched on. This was truly one of the saving graces of the depression that need not have been. Perhaps no single year since 1929 was so productive of important new discoveries and new products to broaden the industrial horizon as was 1938. To this development must be added the effects of new uses for existing products that were found during the year. As heretofore in recent years, the greatest advances in this respect were made in the chemical and electrical fields, though sight must not be lost of the progress in mechanical lines, especially in the field of diesel engines.

Chemistry provided "Nylon," a synthetic protein fiber, which opens a new vista for plastics and for hosiery manufacturers. More elastic than natural silk, this product promises to be an economic battleground for years to come for a $75,000,000 annual market, now so jealously guarded by Japan. More important, immediately, than the product itself, is the fact that, as we entered 1939, two of our most important rayon manufacturers were under commitment to erect factories to produce it, such involving expenditures of some $20,000,000 for plants and equipment and providing jobs for thousands of hands.

Chemistry is not now far removed from perfecting its processes of manufacturing, on a commercial basis, of artificial wools from casein. Synthetic rubber, too, has made many forward strides, and if the element of price can be effectively solved, significant investment in manufacturing facilities seems assured in the not very distant future.

CONDITIONS IN INTERNAL COMMERCE

By Ada Lillian Bush

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BASIC PRODUCTION

Viewed superficially from the angle of total industrial production for the year 1938, statistics present a discouraging picture. The downward trend that brought production in the latter part of 1937 to the lowest level since the third quarter of 1935, continued throughout the first five months of 1938. The average of industrial output for 11 months of the current year, traced through monthly issues of the *Survey of Current Business*, was 24.8 per cent less than for corresponding months in 1937. However, in contrast to 1937 (see The American Year Book, 1937, pp. 492–494), the trend of industrial activity climbed upward during the last half of the year, culminating in a sharp rise in production during the eleventh month. The volume of production in November, 1938 showed improvement over the corresponding month of 1937 and, seasonally adjusted, was approximately 33 per cent higher than in May, the low month of the year. This evidence of returning strength was sustained in December with the index of industrial production standing at about 105.

INDIVIDUAL INDUSTRIES

While both durable and non-durable goods shared in the general improvement that set in during the last half of the year, the steel and automobile industries took the lead in the sharp November expansion. Practically all industries were included in the general decline that prevailed in 1938 from January to June. The extent of this recession varied materially with different industries, as might be expected, but in general the setbacks experienced during those early months of low activity showed up in greatly reduced totals for the year when compared with totals for 1937. Automobile production (number of cars) for the first 11 months of 1938 dropped about 53 per cent below the total for the corresponding months of 1937. Steel ingot production fell almost 49 per cent, bituminous coal approximately 25 per cent, and declines from 1937 in production of paper, leather boots and shoes, electric power, and crude petroleum ranged from 5 to 10 per cent. Flour millings rose 2 per cent above the 1937 level. The dollar volume of total construction contracts in 1938 and of residential construction contracts was about 4 per cent higher than in 1937. The advance in construction during the closing months of the year was largely attributable to developments under the Federal

Emergency Administration of Public Works.

DISTRIBUTION AND TRADE

The freight traffic decline, in evidence since May, 1937, was broken by a slight upturn during the fifth month of 1938. Increased purchasing of primary raw materials, gains in bituminous coal loadings, a heavy grain movement, a less-than-usual summer contraction in consumer purchases and an increase in shipments of manufactured goods, all contributed toward extending through July and August the gains in carloadings for the two preceding months. Freight traffic experienced a more-than-seasonal expansion in September and October and a less-than-seasonal decline in November. Notwithstanding the substantial climb from the low point in April, the average of carloadings for the whole period of record from January to December was approximately 22 per cent below the average for the same period in the preceding year.

Wholesale sales during the first five months of the year averaged about 15 per cent below sales for the corresponding months of 1937. The most severe recessions, as indicated by monthly data from wholesalers reporting to the Bureau of Foreign and Domestic Commerce, were in the electrical goods, hardware, furniture and jewelry lines. The last half of 1938 held a tendency toward a slight but progressive narrowing of the margin of loss from the preceding year. The value of exports was 38 per cent lower than in 1937 while imports declined about 7 per cent. Comparable measurements of retail trade for 11 months of each year show also that in 1938 rural sales of merchandise and department store sales dropped, respectively, 7 per cent and 9 per cent. Preliminary reports indicate that sales through department stores increased by more than the estimated seasonal gain in November, approached the levels of the preceding year during the first two weeks of December, and in the week before Christmas rose 13 per cent above sales for the corresponding week of 1937. According to first estimates for the entire year, the volume in both wholesale and retail sales experienced a decline of about 12 per cent from the 1937 volume.

EMPLOYMENT AND PURCHASING POWER

Following the same general pattern as industrial production, factory employment for the year (11 months' record) was 19 per cent below 1937. Factory payrolls declined 26 per cent. Employment and payrolls recorded a slightly more than seasonal gain at the beginning of the last quarter of the year, and at automobile factories employment rose sharply. October brought moderate increases in employment on most durable goods industries while employment in canning establishments dropped, and little change occurred in other nondurable goods industries. Employment in a number of nonmanufacturing industries showed a more than seasonal upturn at the beginning of the last quarter; employment at this period increased somewhat at mines and in the construction industry, but the rise in trade employment was less than seasonal.

Estimated cash farm income fell considerably below 1937. Reliable estimates placed total income paid to individuals in 1938 at a figure ($64,000,000,000) which is approximately $5,000,000,000 less than the total of income paid out in 1937. Since corporate earnings were lower than in 1937, estimates for income produced during the year are considerably less than the total for income paid to individuals.

After June, the position of the consumer steadily improved with prices for most commodities showing no appreciable rise to offset the general upward trend in cash income.

PRICES, PROFITS AND FINANCE

The year 1938 was free from abrupt price changes and disturbing speculative activity in commodities. Average wholesale prices for 11 months were about 9 per cent lower than for the corresponding months in 1937. Prices of farm products declined approximately 23 per cent, general retail prices were between 5 and 6 per cent below 1937 and retail food prices fell more than 7 per cent.

Available data indicate that industrial corporations in general had returned to profitable operations by the final quarter although business curtailments of the early months of the year tended to bring 1938 corporate earnings below the 1937 levels. The amounts outstanding through commercial borrowing from banks were less than the amounts outstanding at the close of 1937.

THE OUTLOOK

The reversed positions of fundamental factors at the beginning of 1939 as compared with 1938, combine to justify hopes for 1939 in direct contrast to the pessimistic predictions for 1938 which appeared in this column at the close of 1937.

The great problem of unemployment remains. The uncertainties of the international situation constitute a highly disturbing element. The continued shrinkage in the revenues of rail transportation lines and the general loss of profits were among the disappointing features of 1938. However, there exist, among other reassuring factors, evidences of an increasing demand for both durable and nondurable goods, an improved inventory situation, the strengthening influence of the recent trend toward improved price relationships, the beginning of a rapidly accelerated movement in the production and sale of passenger cars, indications of an upturn in construction, a large supply of funds readily available for commercial loans on easy terms, the appearance of an improved relationship between Government and business which may tend to encourage capital expenditures, possibilities for improved foreign trade as a result of accomplished basic trade agreements, and anticipations of stimulated operations in all basic industries essential to developments for the national defense.

Beyond question, the present situation (January, 1939) includes many of the recognized essentials to a broad recovery, with important gains underway at the year-end. Therefore, in the absence of unforeseen political or international complications, it might reasonably be expected that the forward movement of recent months will be extended well into the new year and that, on the whole, 1939 will be a much better year than 1938.

THE UNITED STATES TARIFF COMMISSION

By Raymond B. Stevens

Chairman, The United States Tariff Commission

PERSONNEL AND ORGANIZATION

Raymond B. Stevens, Chairman
Henry F. Grady, Vice Chairman
Edgar B. Brossard
Oscar B. Ryder
E. Dana Durand
A. Manuel Fox
Secretary, Sidney Morgan
New York Office—
Room 712, Custom House
Henry H. Waters, In charge

The United States Tariff Commission was created by the provisions of Title VII of the Revenue Act of Sept. 8, 1916. Earlier boards and commissions, appointed from time to time, had been more or less temporary. They had assembled information on international trade and material bearing on the tariff, the Tariff Board of 1909–12 having published several factual reports on the wool and cotton schedules. Recognizing the need for such disinterested information on all commodities, the Congress in 1916 enacted legislation setting up the Commission in its present form. Thus, the existing Tariff Commission was established as a fact-finding body. Changes in the scope of its activities have occurred from time to time in consonance with the policies which the United States and other countries have pursued at particular times in regard to foreign trade.

THE TARIFF BACKGROUND

When the Commission published its report on Reciprocity and Commercial Treaties in 1919, it was expected that the war-made controls would rapidly disappear and that the pre-war stability of tariffs would quickly return. Instead, the post-war dislocations in production, distribution, finance, and currencies persisted for half a dozen years, and the world went through a period of rapid changes in tariff and trade policies. Quotas and exchange controls were widely adopted as measures to control trade, and whenever trade agreements were made by foreign countries, they were for short terms instead of for long terms as before the war. In this period the United States revised its tariff upward, first in the Emergency Tariff Act of 1921 and, second, in the Tariff Act of 1922. The latter act embodied a section authorizing the Tariff Commission to investigate the differences between costs of production at home and abroad, and investigations under this provision—most of them leading to increases in duties—constituted a large part of the work of the Commission during the 1920's. In this period most of the countries of the world raised their tariffs, Canada being a conspicuous exception.

It was not until the latter half of the 1920's that currencies were stabilized and that tariff rates again became almost the sole form of restriction on international commerce. This revived the hope for greater stability in tariffs, but during the depression which began in 1929 new dislocations of prices and of currencies led to new and more drastic restrictions on commerce. The United States made a general revision of its tariff in 1930 and Canada of its tariff in 1930 and 1931. France introduced the quota system in 1931. The United Kingdom adopted a comprehensive protective tariff in 1932, and at Ottawa measures were adopted giving preference to British products in British Empire markets. In Germany and other Central European countries, in Southern and Eastern Europe, and in Latin America, licensing systems, exchange controls, and clearing and compensation agreements followed in rapid succession. Beginning about 1928 the tariff rates of France moved steadily upward, and the discrimination against non-French products in the French Colonial Empire was increased. India and Ireland embarked on protective tariff policies; the latter from a moderate beginning has grown into a comprehensive protective system. All of these developments have affected the foreign trade of the United States.

TRADE AGREEMENTS WITH FOREIGN COUNTRIES

In June, 1934 the Congress of the United States passed the Trade Agreements Act, pursuant to which the United States has taken the lead in a movement to reduce barriers to world trade. Under this act 20 agreements have been concluded, 14 of which became effective before the end of 1936 (see the accompanying table). With emergence from the depression in 1936 and 1937, there was some tendency to reduce tariffs by other means and to lessen trade restrictions other than tariffs. This tendency was particularly strong in the case of exchange controls. World trade was perceptibly smaller in 1938 than in 1937, but the decline may be attributed more to general political and business conditions than to increased trade barriers. During the year the United States completed a number of important agreements, including those with Czechoslovakia, Canada, and the United Kingdom, together with several limited agreements. The agreement with the United Kingdom and the revised agreement with Canada become effective Jan. 1, 1939.

Except for these agreements, 1938 was a year of minor adjustments rather than of innovations in commercial policy. Many foreign countries have been active in the negotiation of trade agreements, including

TRADE AGREEMENTS SIGNED TO THE CLOSE OF 1938

Country	Signed	Effective
Cuba	Aug. 24, 1934	Sept. 3, 1934
Brazil	Feb. 2, 1935	Jan. 1, 1936
Belgium	Feb. 27, 1935	May 1, 1935
Haiti	Mar. 28, 1935	June 3, 1935
Sweden	May 25, 1935	Aug. 5, 1935
Colombia	Sept. 13, 1935	May 20, 1936
Canada[1]	Nov. 15, 1935	Jan. 1, 1936
Honduras	Dec. 18, 1935	Mar. 2, 1936
The Netherlands, including Netherlands Indies, Surinam, and Curacao	Dec. 20, 1935	Feb. 1, 1936
Switzerland	Jan. 9, 1936	Feb. 15, 1936
Nicaragua	Mar. 11, 1936	Oct. 1, 1936
Guatemala	Apr. 24, 1936	June 15, 1936
France and its colonies, dependencies, and protectorates other than Morocco	May 6, 1936	June 15, 1936
Finland	May 18, 1936	Nov. 2, 1936
Costa Rica	Nov. 28, 1936	Aug. 2, 1937
El Salvador	Feb. 19, 1937	May 31, 1937
Czechoslovakia	Mar. 7, 1938	Apr. 16, 1938
Ecuador	Aug. 6, 1938	Oct. 23, 1938
United Kingdom, Newfoundland, the British nonselfgoverning colonies and certain protectorates and protected states and mandated territories	Nov. 17, 1938	Jan. 1, 1939[2]
Canada	Nov. 17, 1938	Jan. 1, 1939

[1] This agreement superseded by the agreement signed November 17, 1938, shown at the end of the list.

[2] The concessions in the British colonial areas are to become effective as soon after January 1, 1939, as the necessary enabling measures can be taken.

clearing and compensation agreements, but most of the agreements have been continuations of older short-term ones with only small changes. An agreement between the United Kingdom and Ireland, however, terminated a trade war begun in 1932. Early in 1938 the United States extended to Australia the concessions already made in other countries but previously withheld from that country because of discrimination against the commerce of the United States; and during the year it made effective, in addition to several limited agreements, two trade agreements of the tariff-reducing type. The trade affected by one of these—that with Czechoslovakia—has already been substantially diminished by territorial changes. Imports from Sudeten areas formerly a part of Czechoslovakia no longer enjoy reduced rates under trade agreements.

FINANCIAL AND TRADING CONDITIONS

In contrast with 1937 when in several countries the relaxation of exchange control might be noted, in 1938 financial and trading conditions in a number of countries became worse, and exchange controls stricter. Portugal, however, did not revert to the exchange control abandoned in October, 1937. But Austria, where exchange control had practically disappeared, was merged with Germany and made subject to complete controls under a very complicated multiple currency system. Several countries have moved from more general clearing agreements to more detailed compensation agreements. The policy of the bilateral balancing of trade appears to have become more widely accepted in fact if not in theory.

Duties and other restrictions on exports have increased, bounties on production or exportation are more numerous, and trade continues to suffer from the multiplication of regulations relating to sanitation, marking, packing standardization, and documentary formalities of every sort.

The Oslo agreement among the Scandinavian countries, Belgium, and the Netherlands, an agreement aiming to liberalize trade restrictions, was allowed to expire during the year. Japan intensified her efforts to restrict imports of articles which she can do without and has steadily closed the "open door" in China, the control of her armies being now extended over the whole coast line. Mexico reduced the rates of duty on a very extensive list of products in August, 1938, but few of the reductions exceeded the increases which had become effective about the first of the year, and the depreciation of the peso in the meantime had increased the difficulty of selling foreign goods in Mexico.

TARIFF STUDIES AND REPORTS

Throughout the entire period during which these changes have occurred the primary functions of the Tariff Commission have been to gather and analyze information for use in formulating and carrying out the tariff and trade policies of the United States. This involves the preparation and submission of studies and reports to the Congress and the President on the customs laws of this and other countries and of their effect on the trade and industry of the United States (sec. 332 of the Act of 1930); the administration of the rate adjustment provision of the Tariff Act of 1930 (sec. 336); the investigation of alleged unfair methods of competition and unfair acts in importation and sale (sec. 337); the investigation of discriminations by foreign countries against the commerce of the United States (sec. 338); and cooperation with other government agencies concerned with the country's foreign trade (secs. 334 and 350, particularly cooperation in the administration of the Trade Agreements Act).

There are under way a number of commodity surveys as well as various reports in which will be incorporated statistical and other data which the Commission continually assembles and analyzes. These data relate primarily to United States trade and industry and to the tariffs and other trade restrictions of this and other countries. Besides being incorporated in the published reports of the Commission, the material thus assembled and analyzed is supplied in the form of letters and memoranda to the Congress, the President, and to government agencies, and interdepartmental committees considering specific questions relating to the tariff. Much of it is also made available on request to persons and organizations outside the government. It is, morever, used in the revision of summaries of tariff information which the Commission was directed to bring up to date by Senate Resolution 334 (72d Cong. 2d sess.). The summaries now being prepared are considerably expanded editions of the former summaries of tariff information prepared to assist Congress in framing the Tariff Acts of 1922 and 1930. During 1938, work on these summaries has progressed, and the basic work has been completed on about 1,700 of the 2,000 contemplated.

TARIFF RATES AND ADJUSTMENTS

The Commission continues the practice of issuing from time to time lists of the changes in tariff status of imports made since the passage of the Tariff Act of 1930, by action either under the cost of production provision of the Tariff Act, under the Trade Agreements Act, or by the Congress. The last printed edition of the list was issued in January, 1937. Because of the many changes in rates since then, particularly those made in trade agreements, there has been widespread demand for current information, and during the year three supplements to the printed list were multilithed for distribution. The Tariff Commission now plans to issue a new edition, which will incorporate all changes to Jan. 1, 1939, including the changes provided for in the British and Canadian trade agreements.

The Commission continues also the publication of its annual survey on Dyes and Other Synthetic Organic Chemicals in the United States. The compilation of data on production and sales of dyes was originally undertaken at the request of the President in order that he might have the information necessary to carry out the provisions of Section 501 of the Revenue Act of 1916. It has since been continued because of the interest of the Commission and of the domestic industry in the compilation of these statistics.

The larger part of the Commission's work during the year under Section 336 (the rate adjustment provision of the Tariff Act of 1930) was on the investigation of women's and misses' boots and shoes with cemented soles. For this investigation, detailed information was obtained both in this country and in Czechoslovakia, the only important source of imports. No report was submitted to the President because in the trade agreement with Czechoslovakia the United States tariff treatment was bound after consideration of the information obtained. Other investigations considered during the year related to embroidered wool knit gloves and mittens and fluorspar, both of which have been dismissed.

A number of inquiries and three complaints, pursuant to Section 337 of the Tariff Act of 1930, concerning alleged unfair methods of competition were received by the Commission during the year. No formal action was taken on these cases, none appearing to be justified by the information submitted. Three complaints alleging unfair practices have been filed and preliminary work has been done on them, but it has not been decided whether formal investigations are warranted.

TRADE SURVEYS

The Commission continues to participate in the work of the Interdepartmental Committee on Philippine Affairs and of the Joint Preparatory Committee on Philippine Affairs. During the year it cooperated with the Temporary National Economic Committee and assisted the National Resources Committee in preparing a survey of the energy resources of the United States.

A large part of the Commission's work during the year, as in the past few years, has been concerned with the trade agreements program. Several members of the Commission and of its staff have served on interdepartmental committees set up for the purpose of carrying out that program. The Commission has supplied these committees with data relevant to all items and aspects of the United States trade with—particularly of United States imports from—countries with which trade agreements were being negotiated or were under consideration.

During the year the commodities in, and the features of, the large trade of the United States with the United Kingdom, the British Crown Colonies, Newfoundland, and Canada, as well as with several other countries and territories, were analyzed by the Commission for the use of the United States negotiators of agreements with these countries. Studies were also made of the trade of several other countries with which there is the possibility that trade agreements will be negotiated.

After an agreement has been completed the Commission has usually issued reports explaining the provisions of the agreement, analyzing the trade with the country concerned, and containing digests of information regarding products on which concessions have been granted by the United States. A report of this nature was issued during the year, after the Trade Agreement with Czechoslovakia, effective April 16, 1938, was concluded.

The Commission has given considerable assistance to the Committee for Reciprocity Information. This Committee, made up of representatives of the Department of State, Treasury, Agriculture, and Commerce, and the Tariff Commission, was set up by the President to receive the statements both written and oral of interested parties in any proposed or concluded trade agreement. With the aid of the staff of the Tariff Commission, the committee makes digests of statements submitted, and these are supplied to members of the interdepartmental trade agreements organization.

The Commission also continues its direction of a series of projects under the Works Progress Administration. These have been useful in assembling data on foreign trade both for immediate and future use.

IRON AND STEEL

The Commission's survey on this subject, published Aug. 13, 1938, covers the industries and international trade of the principal producing and trading countries, emphasizing those factors which are essential to a consideration of United States tariffs and trade restrictions in United States markets. The products of blast furnaces, steel works, rolling mills, foundries, and forges are of such basic importance in industrial economy and in warfare and the procurement of raw materials for their production so vital an issue that a well rounded study is timely, especially in view of the significant changes that have occurred since the World War.

Reallocations of territory after the war for a time reduced the importance of Germany as a producer and resulted in her greater dependence on foreign supplies of iron ore. Industries were established or greatly expanded in the newer industrial countries—Soviet Union, Japan, and Italy—some of which were largely dependent upon outside sources for raw materials. Most of these industries received the encouragement of the government or its active participation. The efficiency of the industry in Belgium-Luxemburg increased as a result of reconstruction after the war, while that in the United Kingdom declined until recently when the government took active measures. Cartels were established or strengthened with the object of controlling production, sales, and prices in national as well as international markets and, after 1929, controls on international trade became more restrictive. During 1936 and most of 1937 the revival of business and renewed activity in armaments created an unusually large world demand for the raw materials for, and the products of, the iron and steel industry.

A substantial part of the survey deals with the iron and steel industry and trade of the United States. With an investment of some $4,500,000,000 and 500,000 workers at periods of peak activity, the domestic industry is highly integrated and is dependent upon foreign sources for only a few of the secondary raw materials. As the largest producing country, the United States accounted for 38 per cent of the world production of steel ingots in 1937, an increase over 1932–35 but a considerable decline from the average of 50 per cent during 1914–29.

The United States is on a strong export basis for iron and steel products as a whole, but for certain specialties, particularly tool and fine steels, it usually has been a net importer. The complicated system of United States tariffs results in equivalent *ad valorem* rates on most imported iron and steel products of between 10 and 35 per cent; barbed wire, alone, is free of duty. A considerable number of rates were reduced in the trade agreements with Belgium and Sweden. Imports of tonnage steel are marketed for the most part on the seaboard, because of high transportation costs to more inland centers, and complete to a limited extent with domestic products. Exports, in the main, have found markets outside of Europe except during such periods as the World War and in 1937. On the whole, imports of iron and steel supply barely one per cent of domestic requirements, whereas usually five per cent of the output is exported. The United States is usually a net importer of iron ore and pig iron (the raw materials) and a large net exporter of scrap, the exports of which are not restricted as in many other countries. In 1937 the unusual demands abroad, particularly in Japan and Great Britain, resulted in increased exports not only of scrap and finished iron and steel products but also of pig iron and semifinished products.

CUTLERY PRODUCTS

During the year the Commission issued two parts of a general survey of the cutlery industries and trade of the United States, Germany, and Great Britain. The first of these, a printed volume entitled "Cutlery Products," covers cutlery in general; the second concerns pocket cutlery only and is issued in multilithed form. These two reports, the first comprehensive appraisals of the economics of cutlery to be published in the United States, embody the results of investigations conducted in the three countries.

The cutlery industry of the United States consists of approximately 145 concerns giving employment to about 11,000 workers. Their output in 1935 was valued at $43,000,000, about half of which consisted of safety razors and blades. Although cutlery is subject to a complicated scale of duties averaging above 100 per cent *ad valorem,* imports increased from $575,000 in 1935 to $730,000 in 1937. Imports are small, however, in relation to domestic production and to imports in the early and middle twenties. At the present time imports are confined largely to products of manufacturers in Germany, England, and Denmark, which are able to sell on a prestige basis; to specialties from Germany, France, Sweden, and Finland; and to low-priced pocket knives from Japan of a grade not produced in this country. Exports from the United States of cutlery products, the markets for which are principally in the Americas, amounted to $2,000,000 in 1935 and to $3,000,000 in 1937 in comparison with $10,000,000 to $13,000,000 in the middle twenties. The most important single item of export is safety razors and blades.

SYNTHETIC RESINS AND THEIR RAW MATERIALS

In response to widespread interest the Commission has issued a survey on synthetic resins and the principal raw materials used in their production. Synthetic resins were commercially unimportant before the World War. Since then production has advanced rapidly, such resins now being used in automobiles, furniture, wall panels, builders' hardware, electrical fixtures, surface coatings, adhesives, bottle closures, jewelry, and miscellaneous objects. The automobile industry, probably the largest single consumer, uses resins in the fabrication of laminated silent gears, molded parts, and finishing lacquers. New and improved types of varnish, lacquer, and enamel have been produced by their use. For decorative purposes they are rapidly finding new applications. Panels of laminated resins are widely used in store fronts, lobbies of hotels, and large buildings such as the annex to the Library of Congress.

Synthetic resins are imported into the United States only in negligible quantities, but substantial supplies of a few of the raw materials for their production are obtained from abroad. The survey deals with this problem and also with competition of synthetic resins with older products, both imported and domestic.

THE MICA INDUSTRY

Although producing a large amount of scrap mica, the United States is dependent in very large degree on imports for its supply of the better grades of mica, essential for many purposes in electrical equipment. The Commission's survey on industry and trade in the various forms of mica, devotes considerable space to explaining the functions of mica in such familiar appliances as electrical generators, motors, radios, spark plugs, flatirons, and toasters. In the most important of these—generators, motors, and radios—sheet mica is practically indispensable, so that a dependable source of supply is of great importance. Mica is one of the 21 commodities on the list of strategic materials set apart by the War and the Navy Departments for special consideration. The United States has none of the two most important types of mica, the thin splittings from which built-up insulation board and cloth are made, and the superfine sheet used for radio condensers and airplane spark plug insulation. The domestic supply of the next best quality, that required for radio tube bridges, is also small.

These three types constitute fully 85 per cent of the country's consumption of mica sheet. All industrial nations, except possibly the Soviet Union, are practically dependent upon British India for their supply of these kinds of mica. From present indications all of the other mica-producing countries combined could not furnish more than about 40 per cent of the world requirements. When the survey of the mica industry was about to go to press, the invention of a new product similar to, or identical with, mica in its most important electrical properties, was announced by the Massachusetts Institute of Technology. The product, or the method of making it, is patented by that institution, and some of the patent rights, as well as the rights to develop and exploit this new product, have been assigned to the Research Corporation of New York. A statement of the process, authorized by the inventor, Dr. Ernst A. Hauser, professor of chemistry at the Massachusetts Institute of Technology, and by Carroll Wilson, Boston representative of the Research Corporation, for use by the Commission, appears in the preface to the survey.

ADMINISTRATION OF THE TARIFF LAWS

By C. A. Freeman

Bureau of Customs, Treasury Department

CUSTOMS COLLECTIONS

The total revenues collected by the Customs Service during the fiscal year 1938 amounted to $392,057,977, compared with $524,271,471 during the previous year, a decrease of $132,213,494 or 25 per cent. Of these amounts $359,573,654 and $488,342,746 in 1938 and 1937, respectively, represented actual customs revenue, while the balance consisted of internal revenue taxes on imports of alcoholic beverages, etc., and of various collections for other Government departments. During the early part of the fiscal year in review customs collections showed a pronounced increase over those during the corresponding months of the previous year but beginning in October there was a substantial contraction in imports and a corresponding reduction in collections which continued throughout the remaining months of the year and which resulted in total collections amounting in 1938 to less than three-fourths of the 1937 aggregate.

Two-thirds of the decrease in customs collections in 1938 was accounted for by those commodities which were the most important sources of revenue during 1937, namely, those listed in the agricultural and wool schedules of the tariff act. The bumper crops of 1937 created a surplus of grains and food-stuffs so that, instead of importing large quantities of these commodities as had been necessary after the droughts of 1934 and of 1936, there existed not only a sufficient supply for consumption in the United States but also a substantial surplus for export. The decline of imports of dutiable wool, on the other hand, due to a decreased demand for wool products to such an extent that domestic production was sufficient to meet consumptive demands and imports, except of types not available in the United States, almost reached the vanishing point. The table next page shows the value of dutiable imports and the computed duties collected by tariff schedules for the fiscal years 1937 and 1938.

It will be observed that the aggregate duty collections as computed by tariff schedules is somewhat less than the total customs collections reported by collectors of customs. This is, in part, due to the fact that the above table does not include miscellaneous collections of fines and forfeitures, liquidated damages, sale of seized property, etc., all of which are included in the total customs collections. It is also, in part, due to the fact that the computations of duties are necessarily based upon the data reported at the time of original entry and do not take into consideration the increased and additional duties levied as a result of the final determination of the correct quantity by the weighers and gaugers, changes in classification or rates of duty by appraisement officers, or clerical errors found upon liquidation of the entry.

IMPORT VALUES AND DUTY COLLECTIONS

Schedule No.	Value of Dutiable Imports		Duty Collections	
	1937	1938	1937	1938
1. Chemicals	$ 86,067,673	$ 55,474,222	$ 30,398,947	$ 19,111,949
2. Earths	33,757,723	31,424,250	16,403,445	14,848,001
3. Metals	110,060,269	87,512,647	35,304,413	28,353,158
4. Wood	18,497,238	16,340,470	2,973,764	2,736,247
5. Sugar	120,725,174	92,639,161	41,309,707	39,102,427
6. Tobacco	31,580,909	32,281,061	25,528,833	22,859,323
7. Agricultural products	332,489,274	200,122,349	117,301,552	67,172,339
8. Spirits	78,374,877	68,968,811	46,131,098	41,087,281
9. Cotton	42,618,192	32,045,751	16,770,681	12,723,895
10. Flax and hemp	76,735,299	60,281,716	19,044,297	14,730,941
11. Wool	87,430,370	37,006,864	57,271,008	24,424,651
12. Silk	8,185,607	7,356,871	4,466,436	3,987,882
13. Rayon	7,941,656	4,891,735	3,204,939	2,246,692
14. Pulp and paper	14,360,684	13,776,661	3,208,794	2,975,183
15. Sundries	161,179,260	131,088,352	47,375,116	40,735,836
**	40,330,760	37,617,213	11,392,694	11,078,155
Total	$1,250,334,965	$908,828,134	$478,085,724	$348,173,960

** Free list commodities taxable under the Revenue Act of 1932 and dutiable under section 466, Tariff Act of 1930, etc.

Furthermore, the import documents, from which the statistics used in the computation of duties are compiled, do not include many baggage, mail, and informal entries on which the duties collected amount to a considerable sum.

ENTRIES OF MERCHANDISE

For the fifth successive year, a larger number of entries of merchandise was reported than during the previous year. The anomalous condition of an increase in the number of entries accompanied by a decrease in collections is due chiefly to the fact that many of the agricultural and wool products imported in 1937 consisted of bulk shipments, so that the lessened volume of such importations in 1938 had a marked effect on collections but little effect on the number of entries. Furthermore, in 1938 importers ordered quantities sufficient only for their immediate needs, carrying little, if any, stocks in warehouse and, therefore, imported with greater frequency. The following table shows the number of entries of merchandise for the fiscal years 1937 and 1938:

	1937	1938	Percentage Increase or Decrease (−)
Consumption entries	590,312	519,262	−12.0
Warehouse and rewarehouse entries	76,834	68,880	−10.4
Warehouse withdrawals	382,383	382,882	.1
Mail entries	564,546	584,764	3.6
Baggage entries	595,705	714,586	20.0
Informal entries	244,283	234,786	− 3.9
All other	621,398	616,016	− .9
Total	3,075,461	3,121,176	1.5

VEHICULAR TRAFFIC

The number of automobiles and buses entering the United States aggregated 11,907,125 in 1938, an increase of 6 per cent from the previous year, and the number of passengers carried by these vehicles aggregated 34,461,503, an increase of 10 per cent over 1937. The number both of passenger trains and of other vehicles entering the United States was smaller during the year than during 1937 and fewer passengers used these means of conveyance to reach this country.

MARINE TRANSACTIONS

The number of passengers entering the United States by vessel was considerably larger than during 1937, although the number of vessels involved showed a slight decrease. The decrease in the number of documented vessels entered direct from foreign ports, however, was confined almost entirely to those of American registry, the number of foreign vessels entering being practically the same in 1938 as during the previous year.

AIRPLANE TRAFFIC

Airplane passenger traffic between the United States and foreign countries continued the remarkable growth exhibited during recent years. A total of 6,219 airplanes arrived from abroad in 1938, an increase of 13 per cent from the 1937 total, and 44,107 airplane passengers were reported, an increase of 18 per cent over the previous year. More than one-fourth of the planes and more than half of the airplane passengers reached the United States at the port of Miami. Large increases occurred in the Vermont and New York customs districts due to the establishment of new international air routes.

DRAWBACK TRANSACTIONS

The number of drawback transactions and the amount of drawback paid to importers were both greater than during the previous year. About 98 per cent of all drawback payments consisted of drawback on exported merchandise manufactured from imported materials, the most important of which were sugar, flaxseed and copper.

SEIZURES AND PENALTIES

The number of seizures made for the violations of customs laws continued to decline, although the amount of decrease during 1938 was smaller than for any year since repeal of the eighteenth amendment. The seizures in 1938 numbered 10,535 and were valued at $716,008, compared with 10,624 seizures valued at $1,260,618 in 1937. In connection with the decline in the value of seizures, it should be noted that three seizures in 1937 represented more than half the total value of all seizures for that year, whereas no individual seizures of comparable value were made in 1938. The number of liquor seizures during the year, for the first time since the Prohibition period, was substantially greater than during the previous year, although a smaller aggregate quantity of alcoholic beverages was seized than in 1937. The number of narcotic seizures also increased due, in part, to the Marihuana Act of 1937, which became effective on Oct. 1. Previously, seizures of this drug were turned over to state authorities for disposition.

Total collections of $2,539,162 during 1938 from fines, penalties, liquidated damages, and sales of seizures represented the largest total in the history of the Customs Service and were almost three times the total for the previous year. The largest collections from this source during any previous year aggregated $2,472,603 in 1928. Almost three-fifths of the collections in 1938 represented penalties on cases which originated prior to the repeal of the eighteenth amendment and which involved the large scale smuggling of illicit liquors.

SMUGGLING

Most of the illicit importations of lottery tickets which are detected involve the transmission of a small quantity through the mails and are handled by the Post Office Department. Customs officers at Portland, Me., however, in February, 1938, after witnessing the midnight unloading from a suspected vessel of several bales and their subsequent transfer to a garage, effected the seizure of 368,640 lottery tickets and arrested both the officer of the ship responsible for the importation and the person who was to receive delivery in this country. Later bales containing large numbers of lottery tickets were picked up at various points on the beach, so that, all told, the illicit importation of over 900,000 lottery tickets was prevented.

A larger amount of gold, illegally brought into this country, was seized during the year than during any year since the enactment of the Gold Reserve Act of 1934. In a number of instances, the offense was due to ignorance of the provisions of the law but in other cases, willful smuggling was attempted. One such smuggler, discovered at San Antonio in July, 1937, had brought approximately $6,000 of Mexican gold coins across the border wrapped in a bag inside the spare tire of his automobile.

Enforcement officers continued to give special attention to the smuggling of narcotics and as a result important seizures of this contraband were made at widely separated points. One of these cases involved a Mexican customs officer who had abused the courtesy extended to him by the American customs officers in allowing him to pass the border without the customary search of his automobile and who, when arrested, had in his possession 512 ounces of crude opium.

RECIPROCAL TRADE AGREEMENTS

Two additional trade agreements, negotiated under Trade Agreements Act of 1934, became effective during the year and one was partially terminated, leaving a total of 16 agreements in full effect at the end of the fiscal year. The trade agreement with Costa Rica became effective Aug. 2, 1937, and that with Czechoslovakia April 16, 1938, while certain of the provisions of the trade agreement with Nicaragua were terminated on March 10, 1938. The application of the rates established under the trade agreements, except that with Cuba, to products of the Commonwealth of Australia, which was suspended in 1936, was restored Feb. 1, 1938, so that Germany is now the only country to which trade agreement rates are not applicable by virtue of our most-favored-nation treaties.

After the close of the fiscal year two additional trade agreements were negotiated, that with Ecuador, which became effective Oct. 23, and that with the United Kingdom, Newfoundland, and certain British Colonies, which was concluded Nov. 17, and became effective Jan. 1, 1939. A revision of the trade agreement with Canada, which considerably amplified the scope of the first agreement, also became effective Jan. 1, 1939.

IMPORT QUOTAS

Quotas on the number of commodities were established under the terms of the Canadian Trade Agreement, Philippine Independence Act, the Philippine Cordage Act of 1935, and Section 811 of the Revenue Act of 1936. These quotas serve to limit the quantity of importations of some commodities and effect the dutiable status of other commodities within quota limitations. The administration of quotas is under the control of the Bureau of Customs which provides periodic information through the press releases regarding the percentage of fulfillment of each import quota. In a number of cases the 1938 quota was either completely or practically filled. The trade agreement with the United Kingdom and the second trade agreement with Canada changed the quota status of a number of commodities. Quota restrictions on a few commodities were discontinued and new quotas established or existing quotas changed on a number of additional commodities.

CUSTOMS ADMINISTRATIVE ACT OF 1938

This act, which was approved by the President June 25, 1938, made numerous changes in the administrative provisions of the tariff act and related statutes so as to simplify the interpretation of the law, facilitate its administration and correct certain abuses which had grown up in past years. No changes in rates of duties were involved in this legislation.

FOREIGN TRADE ZONES

The second foreign trade zone to be established under the provisions of the Act of June 18, 1934, was opened at Mobile, Ala. shortly after the end of the fiscal year. The first zone at Stapleton, Staten Island, N.Y. began its operations Feb. 1, 1937.

CUSTOMS SCHOOL OF INSTRUCTION

With the completion of the third year of its existence, the School of Instruction for the Customs Service reached an enrollment of over 10,000, including the entire personnel of the Customs Service and officers and employees of about 20 other departments and branches, both of this Government and of the Philippine Islands. The courses, although primarily conducted by correspondence, are frequently supplemented by discussions or lectures which are directed or given by expert field officers.

CHANGES IN PORTS AND STATIONS

One port at Nome, Alaska, and two stations at Lake Linden, Mich., and West Point, Va., were abolished during the year. A new port of entry was designated at Port St. Joe, Fla., made necessary by the erection of a pulp mill using imported materials, and one was designated at Highgate Springs, Vt. The status of the following 23 stations was changed by Executive order to that of ports of entry on July 15, 1937 (T. D. 49029): South Haven, Mich.; Pigeon River Bridge, Pine Creek, and Roseau, Minn.; Dunseith, Fortuna, Maida, and Noonan, N.D.; Morgan, Opheim, Peskan, Piegan, Raymond, Roosville, Scobey, Turner, Westby, Whitetail, and Whitlash, Mont.; Lynden and Metaline Falls, Wash.; and Ysleta and Freeport, Tex. Permanent stations were designated during the year at Port McNicoll, Ont., Crane Lake, Minn., Antelope Wells, N.M., Columbia Falls, Mont., Beebe Plain and Morses Line, Vt., and some seasonal stations were established at other points. At the end of the year there were 309 ports of entry and 80 permanent stations.

RAILROADS

By J. J. Pelley

President, Association of American Railroads

GENERAL

Railroad operations during the year 1938 unfolded many disappointments. The increases that occurred in traffic volumes in 1936 and 1937 were all but wiped out. The hoped-for revival of business during the fall months was slow to materialize, and ran below expectations. The net financial result of the year's operations was a deficit in net income of $125,000,000, comparable only to the deficit of $139,000,000 in 1932 at the depth of the depression period.

The Interstate Commerce Commission heard the carriers' application for a 15 per cent increase in freight rates but granted authority only for increases calculated to produce 5.3 per cent, or little more than one-third of the amount requested. After first denying the petition of carriers in eastern territory for authoity to increase coach passenger fares to 2½ cents per mile, the Commission in reopened proceedings granted authority for such increase for an experimental period of 18 months.

The President, in March, appointed a committee composed of three members of the Interstate Commerce Commission to recommend a program of railroad legislation. The report of the committee, generally known as the Splawn Report, was transmitted to Congress by the President nearly two months before adjournment, but Congress failed to act upon any of its legislative recommendations.

Meanwhile, the railways began negotiations with their employees for a reduction in wages. After passing through the stages of negotiation and mediation provided for in the Railway Labor Act without agreement, the President of the United States appointed an Emergency Board, also provided for in the act, as a fact-finding body to report to him regarding the controversy. The report of the Board to the President recommended that no reduction in wages should be "pressed by the carriers at this time." The railways thereupon abandoned their efforts along that line.

Although Congress did not pass any legislation that was of direct benefit to railroads, neither did it pass any that was particularly harmful. Two so-called railroad labor bills, both of which would have added substantially to railroad costs, were considered by committees during the session but were not voted out. One of these, the train-length limitation bill, had been passed by the Senate in 1937, but after extended hearings before the House Committee on Interstate and Foreign Commerce, the bill was defeated in the committee. A bill to establish a six-hour day for train dispatchers was also heard by the same committee and received a like fate. While the Congress did enact a law setting up a separate system of unemployment compensation for railroad employees, which the railroads opposed, the act will have no immediate effect on railroad expenses, since the same payroll tax rate applies as under the Social Security Act. The Fair Labor Standards Act exempts railroad employees from the maximum-hour provision but not from the minimum-wage requirements. With minor exceptions, railroad wage scales are generally above the present minimum requirements of the act. However, these minimum requirements will rise to higher levels as time goes on.

In September, the President appointed a committee consisting of railroad executives and railroad labor leaders to submit to him recommendations upon the general transportation situation. The report of this committee was handed to the President Dec. 23; it carries with it the hopes of the railways for better days to come. This report, together with other outstanding events of the year, are discussed in greater detail below.

REPORT OF THE COMMITTEE OF SIX

Following the failure of Congress to take action on the Splawn Report, discussed briefly at a later point, the President appointed another committee to consider the transportation problem and to recommend legislation. This committee, appointed Sept. 20, 1938, consisted of three representatives of railway management and three of railway labor as follows: for managements, Carl R. Gray, vice-chairman, Union Pacific System; M. W. Clement, president, Pennsylvania Railroad; Ernest E. Norris, president, Southern Railway System; for labor, George M. Harrison, grand president, Brotherhood of Railway and Steamship Clerks, and chairman of the Railway Labor Executives' Association; B. M. Jewell, president, Railway Employees' Department, American Federation of Labor; D. B. Robertson, president, Brotherhood of Locomotive Firemen and Enginemen.

The committee handed its report to the President Dec. 23. The Association of American Railroads endorsed the recommendations of the committee in full. Briefly stated, the report recommends:

1. Adoption by the Government of a definite national transportation policy providing fair and impartial regulation to all modes of transportation, so administered as to preserve the inherent advantages of each.

2. Uniform jurisdiction of the Interstate Commerce Commission over all modes of transportation, in regulatory matters involving rates, services, valuation and accounting.

3. Revision of the rate-making rule of the Interstate Commerce Act so as to return to managements the proper functions of management in this respect. Extension of the power of the Commission with respect to intrastate rates. Amendment of reparation provisions of the act.

4. Repeal of the long-and-short haul clause of the act.

5. Creation of a Transportation

Board, "charged with the duty of investigating and reporting to Congress concerning the relative economy and fitness of the several modes of transportation and the extent to which any of them is now being subsidized, with its recommendations for further legislation." Such matters as certificates of convenience and necessity, issuance of securities, consolidations, mergers, leases, acquisitions of control, interlocking directorates, etc. for all modes of transportation would also come under the Board's jurisdiction.

6. A system of tolls for inland waterway routes improved with government funds.

7. Relief from certain tax burdens and other impositions.

8. Repeal of so-called land-grant rate reductions.

9. Establishment of a single court vested with exclusive jurisdiction over matters connected with railroad reorganizations.

10. Repeal of certain provisions of the Interstate Commerce Act dealing with consolidations, and restoring initiative to the carriers in this respect. Proposed consolidations to be subject to the approval of the Transportation Board which shall consider and protect the interest of the public and of labor.

11. Liberalization and enlargement of the loaning powers of the Reconstruction Finance Corporation.

THE SPLAWN REPORT

During March, several conferences were held by the President at the White House on the critical railroad situation. Representatives of the Cabinet, both Houses of Congress, the Interstate Commerce Commission, the Reconstruction Finance Corporation, other government departments, railroad security holders, railroad executives, and railroad labor took part in these conferences. On March 17, as a result of these conferences, the President appointed Interstate Commerce Commissioners Splawn, Eastman and Mahaffie a committee to consider and recommend changes in railroad legislation. The report was promptly rendered, and the President transmitted it to Congress April 11, 1938. The Congress, however, did not respond to the recommendations of the report.

Briefly stated, the report recommended, as measures of immediate relief, the following:

1. That approximately $300,000,000 be made available from Government loan funds for purchase of railroad equipment.

2. That for 12 months the Reconstruction Finance Corporation be empowered to make loans without certification by the Interstate Commerce Commission that the railroad can meet its fixed charges.

3. That other forms of government credit be considered from the point of view of public policy.

4. That government traffic pay the full rate by eliminating land-grant rate reductions.

5. That reorganization procedure under the Bankruptcy Act receive the attention of the Congress, with consideration of the establishment of a single court in charge of reorganization.

The long-term program recommended by the Splawn Report was generally as follows:

1. That a Federal Transportation Authority be created for two years to plan and promote action by railroad companies to eliminate waste and to aid consolidation and coordination.

2. That the Interstate Commerce Act be amended to broaden the powers of the Interstate Commerce Commission with respect to pooling of earnings or traffic, and to approve unifications; also that the prescription of a "consolidation plan" be eliminated.

3. That the Authority investigate economy of operations and fitness of all types of transportation, in order to encourage special fitness and abate destructive competition.

FREIGHT RATES AND PASSENGER FARES

Railroads filed with the Interstate Commerce Commission in November, 1937, an application seeking authority to increase freight rates horizontally by 15 per cent, except as to five important commodities for which certain prescribed maxima were requested. Authority was also sought to increase the maximum passenger fare for coach travel in eastern territory from the prevailing fare of 2 cents per mile to 2½ cents per mile. The case was docketed as *Ex Parte 123*.

Hearings on the application were inaugurated in Washington in November, 1937, and were completed in February, 1938. On March 8, the Commission handed down its decision on the proposed freight rate increases. The decision granted authority to the rail carriers to increase rates on certain commodities by 10 per cent and on other commodities by 5 per cent, but including in these percentages such increases as were granted the preceding year in *Ex Parte 115*. It was estimated by the Association of American Railroads that the rates would produce increased freight revenues of about $150,000,000 a year, based on 1938 traffic volume, or an increase of 5.3 per cent. This compares with the 15 per cent increase sought by the carriers.

The Commission drew the following significant conclusion: "An increase of 15 per cent, generally based upon a normal volume of traffic, as proposed, is for a larger amount than is reasonably necessary to meet the purposes of the increase, if realizable, and will be such a deterrent to traffic as to stifle movement." (226 I.C.C. 136).

The implication in the concluding phrase of this quotation was more specifically stated by Chairman Splawn, concurring in part, as follows: "In an effort to pass on increased expenses through an increase in rates they (the railroads) may drive away to their competitors very substantial quantities of the traffic they now have." (226 I.C.C. 142). This attitude on the part of the Interstate Commerce Commission indicates that for the time being at least the door to further rate increases is all but closed.

By a vote of six to five, the Commission in April, 1938 denied the request of carriers in eastern territory for authority to increase the basic passenger fare in coaches to 2½ cents per mile. Eastern carriers asked for a reopening of this case in May. The matter was again heard, and on July 5 the Commission authorized 2½ cents as the coach fare per mile for an experimental period of 18 months. The new fare became effective in eastern territory July 25.

On Nov. 21, 1938 the Commission handed down a decision granting authority to extend beyond Dec. 31, 1938 the increased bituminous coal rates authorized in 1937 in *Ex Parte 115*. Based on the 1938 volume of traffic, if these rates had been allowed to expire, it would have meant a loss in revenues to the carriers of $20,000,000 annually.

The Commission granted authority to the Pullman Company to increase fares and charges by 5 per cent, which became effective Aug. 1. The application of the Pullman Company asked for a 10 per cent increase. The Railway Express Agency also asked the Commission for authority to increase express charges, but at the year's close a decision in the matter had not been handed down.

WAGE REDUCTION PROPOSAL

On May 12, 1938 the railways individually served notice on their employees of a 15 per cent reduction in pay, effective July 1, 1938. Under the terms of the Railway Labor Act, this was a formality requisite to opening negotiations between the two parties. Negotiations between managements and employee representatives continued intermittently up through Aug. 4 when, by mutual agreement, it was decided that further negotiation between the parties was useless.

On Aug. 4 the services of the National Mediation Board were invoked and were accepted on the following day. For three weeks thereafter the National Mediation Board attempted unsuccessfully to secure an agreement between the parties. On Aug. 30, the Board advised the parties that mediation proceedings had failed and urged that the controversy be submitted to arbitration.

The managements agreed to arbitration, but representatives of labor declined. The individual carriers thereupon served notice on their employees that the 15 per cent reduction in pay would be made effective Oct. 1, 1938. The employees then took a strike vote and Sept. 26 announced that they would quit work at the time the proposed reduction was made effective.

The President of the United States then appointed an Emergency Board, composed of Dean James M. Landis, Professor Harry A. Millis, and Judge Walter P. Stacy, to investigate and report its findings regarding the dispute. The Board convened Sept. 30 and held hearings through Oct. 17. Its report was submitted to the President Oct. 29.

The Board recommended against a wage reduction for railway employees at this time, and the carriers abandoned their efforts to obtain such reduction. The railways were greatly disappointed in the findings of the Emergency Board, as it blocked one of the few remaining, if not the last, avenue open to partial relief.

LEGISLATION

After protracted hearings before the House Committee on Interstate and Foreign Commerce, the Train Limit Bill (S.69), which had been passed by the Senate during the 1937 session, was not reported out of committee. The bill proposed to limit the length of freight trains to 70 cars, and was sponsored by railroad labor organizations. The railroads opposed the bill on the ground that it would have an adverse effect on safety of operations, would increase operating costs, and would reduce the efficiency of service to the public. Shippers throughout the country took an active part in opposing the bill.

The Senate again failed to act on the Pettengill Bill (H.R. 1668), which contemplated repeal of the long-and-short haul clause of the Interstate Commerce Act. The House of Representatives passed this bill in 1936 and again in 1937, but on both occasions it was allowed to die in the Senate.

Congress in June passed the Crosser Bill (H.R. 10127) establishing a separate system of unemployment compensation for railroad employees and others engaged in interstate commerce. The bill was signed by the President June 25. By the terms of the act, the Railroad Retirement Board, which administers the Railroad Retirement Act, will also administer a system of unemployment compensation, thereby taking over entirely, in so far as railroad employees are concerned, the functions of the Social Security Board, and of the unemployment compensation systems of the several States. Generally speaking, the scale of benefits payable under the terms of the acts administered by the Railroad Retirement Board are higher than those provided for under the Social Security Act and complementary state laws.

The Fair Labor Standards Act, approved by the President June 25, 1938, frequently referred to prior to enactment as the Wage-Hour Bill, exempted railroad employees from the maximum-hour provision but not from the minimum-wage provision.

A number of bills in which the railroads were particularly interested received some attention toward the end of the session, but largely because of shortage of time no action was taken on them. Hearings on a bill proposing to eliminate land-grant rate reductions were held. Similarly a bill proposing amendments to the Reconstruction Finance Corporation Act, which would expand and liberalize the loaning powers of the Corporation in so far as railroads are concerned, was given scant attention because of lack of time.

FINANCIAL AND OPERATING RESULTS

The principal items of financial and operating results for the year 1938 are shown in the accompanying table. For comparative purposes, figures for 1930 and 1937 are also given. The 1938 figures are preliminary and are subject to revision when final figures for the year become available.

	1938	1937	1930
Financial:			
Operating revenues (000,000)	$3,550	$4,166	$3,281
Operating expenses (000,000)	2,710	3,119	3,931
Taxes (000,000)	345	326	349
Net railway operating income (000,000)	362	590	869
Net income (000,000)	Def 125	98	524
Traffic:			
Freight carloadings (000)	30,425	37,675	45,878
Freight ton-miles (000,000)	290,000	360,620	383,450
Passenger-miles (000,000)	21,800	24,655	26,815
Employees:			
Average number (000)	940	1,115	1,487
Total compensation (000,000)	$1,737	$1,985	$2,551

Operating revenues in 1938 were 14.8 per cent less than in 1937 and 32.8 per cent less than in 1930. Operating expenses were 13.1 per cent under 1937 and 31.1 per cent under 1930.

Tax accruals in 1938 were $19,000,000 greater than in 1937 and only $4,000,000 less than in 1930.

Net railway operating income declined 38.6 per cent in 1938 under 1937, and 58.3 per cent under 1930. After interest and other fixed charges, there was a deficit in net income in 1938 of $125,000,000. This compares with a net income over and above charges of $98,000,000 in 1937 and $524,000,000 in 1930. In only a single year, 1932, have the railways made a poorer showing, the deficit in net income in that year being $139,000,000.

Revenue freight carloadings in 1938 were 7,250,000 cars less than in 1937, and 15,453,000 cars less than in 1930, average weekly losses of about 140,000 cars and 297,000 cars respectively. Ton-miles of freight declined 19.6 per cent under 1937 and 24.4 per cent under 1930. Passenger-miles dropped 11.6 per cent in 1938 below 1937, and 18.7 per cent below 1930.

CONCLUSION

Railroads hope for increased traffic volumes in 1939 and for constructive action by the Congress toward development of a sound national transportation policy impartially administered. The railroad industry possesses a tremendous potential buying power which for a number of years past has of necessity been greatly restricted. Needs of the moment for new equipment and for materials and supplies used in maintenance work are great. If the railroads can go to market in 1939 for the many things they need, it will give all other business enterprises a tremendous stimulus. The report of the Committee of Six sets forth clearly and dispassionately the things that must be done before railroad buying power can be fully unleashed. The matter rests in the hands of the Congress, backed by intelligent and forward looking public opinion.

HIGHWAYS

By Thomas H. MacDonald,

Chief, Bureau of Public Roads, Department of Agriculture

FEDERAL-STATE COOPERATIVE WORK

In the fiscal year ended June 30, 1938, 12,130 miles of highway, the elimination of 711 highway-railroad grade crossings, and reconstruction of 144 obsolete crossing structures were completed in the program of highway construction carried on cooperatively by the States and the Federal Government. The miles of road completed and the work done considerably exceeded the average rate for the past 10 years.

In the preceding year the large emergency program with grants of funds to the States with which to pay the full cost of highway construction was practically completed. A small amount of emergency work was carried over into the fiscal year 1938. For new work during the year, there was made available $125,000,000 for improvement of the Federal-aid system, $50,000,000 for elimination of hazards at railroad grade crossings, and $25,000,000 for improvement of secondary or farm-to-market roads. The States were required to match the highway funds but the grade crossing funds were available to pay the full cost of construction. These funds are only an approximate indication of work done during the year since road building is a continuing process. Each year many projects are carried over into the next year for completion, and portions of annual authorizations are used in the year following the year for which they were authorized. Actual payments of Federal funds to the States amounted to $218,637,000.

The funds for secondary or feeder roads and for grade crossing elimination were the first to be provided as a part of the regular Federal-aid program. Such work was begun as a part of the emergency program and is now being continued with annual authorizations.

TYPES OF ROAD COMPLETED

	Miles
Graded and drained	1,506
Sand-clay, treated and untreated	699
Gravel, treated and untreated	3,896
Macadam, treated and untreated	403
Low-cost bituminous mix	1,989
Bituminous macadam	213
Bituminous concrete	419
Portland cement concrete	2,870
Block	45
Bridges and approaches (surfaced)	53
Grade separations (surfaced)	36
Total	12,129

The 12,129 miles completed included 9,333 miles of rural portions of the Federal-aid highway system, 2,036 miles of secondary or feeder roads, and 760 miles of roads and streets in municipalities.

The United States greatly surpasses any other country of the world in its program of highway-railroad grade crossing elimination. The 711 crossings eliminated in the Federal program in 1938 were all dangerous crossings from the viewpoint of location and of traffic. Numerous major projects where main highways cross several tracks in city and surburban areas were included. Over 2,500 crossings have been eliminated in the Federal program since 1933. The primary purpose of this work is increased highway safety but the saving in time and motor fuel, made possible by eliminating delay and congestion at railroad crossings is proving to be an important item.

MODERNIZATION OF MAIN HIGHWAYS

The existing systems of State and Federal-aid highways are now almost entirely surfaced as a result of the continuous effort of the past 25 years. Those roads improved in recent years are fine, broad highways incorporating every feature and device developed from experience to make them safe for fast-moving traffic. The older roads were designed for the slower speed of vehicles that have long since gone to the junk pile. When they were built the laws of many States prohibited speeds greater than 30 or 40 miles per hour. Had present developments been foreseen it would not have been possible to build to present standards because of limited funds and the immediate necessity of surfacing a large mileage of road. The roads built have been good investments and have helped to produce motor vehicle revenues that now amount to over $1,000,000,000 annually.

Improving these old roads according to modern standards by eliminating dangerous curves and grades, widening surfaces, and replacing obsolete bridges is now a matter of first importance not only to facilitate travel but as a safety measure. Much of the work done during 1938 was of this character. Most of the projects were moderate in cost and have not attracted wide attention. Occasionally the work has been of a striking nature such as the relocation of U.S. Route 22 near Cincinnati, O. where an old winding road with narrow bridges and short sight distances was replaced by a road and viaduct furnishing a high level crossing of a river and railroad tracks. Another example is the Cuesta grade in California where a steep, winding and dangerous mountain road carrying heavy traffic has been replaced by construction that is modern in every detail.

Highway planning surveys now being conducted by the Bureau of Public Roads and 46 state highway departments have as objectives the assembly of detailed information concerning the condition of improvement of all rural roads, the traffic on each section of road and on highway income and expenditure. These data are to be applied in determining present and future road needs and the extent to which they can be met with available highway revenues.

Provision of adequate facilities to accommodate traffic flows requiring more than two traffic lanes is now a problem of importance. There is general agreement as to the physical character of the improvements needed. Highways with four or more lanes to serve as through arteries should be separated in the middle by a planted or grassy area. Access roads should be carefully planned and limited in number. Crossings with other highways and rail lines should be at different levels. The right-of-way should be wide enough for roadside planting and for special accommodation of pedestrians and bicylists if needed. Another reason for wide right-of-way and limitation of access roads is to prevent strip development along a highway giving it the character of a local service road and seriously impairing its usefulness to through traffic.

Preliminary data on traffic flow collected in the highway planning surveys indicate that about 25.000 miles of new 4-lane highways will be required in the next 25 years. The cost of right-of-way for these highways will be large. A first step in planning should be provision for acquiring the needed land so as to avoid increased costs resulting from future improvements and speculative dealing in land.

ROAD CONSTRUCTION IN FEDERAL AREAS

During the fiscal year 1938 the Federal Government improved 262 miles of road in public lands and Federal reservations, 503 miles in national forests and 330 miles in national parks. Provision of roads through Federal areas has been a fixed policy for many years. The purpose is to give continuity to the Federal-aid and state systems and to provide access to recreational areas and historic spots. In the past few years there has been a great increase in the number of motorists visiting the great scenic areas included in the national forests and the varied attractions found in the 41 national parks and monuments in which road improvements have been made. In the Western States road facilities for park-to-park tours and side trips are constantly being improved. The outstanding work in the East is the Blue Ridge Parkway following the crest of the Blue Ridge Mountains for 480 miles through Virginia, North Carolina, and Tennessee. More than 120 miles of this parkway have been completed and over 150 miles are under construction.

HIGHWAY SAFETY

There are few subjects that have received or deserve more public notice than highway safety. Motor vehicle accidents resulted in the death of 39,500 people in 1937. Highway use has increased enormously. In 1938, 50,000.000 drivers were operating 30,000.000 vehicles more than 200,000,000,000 miles. Accidents must be expected with this volume of travel but not nearly so many as occur and they should be reduced to the lowest possible figure. The problem is a complex one that must be attacked on many fronts. Removing highway dangers such as arise from grade crossings, sharp curves, narrow bridges, and short sight distances must be done as rapidly as funds can be obtained to meet the cost. But this will not constitute a full and adequate solution. The number of accidents and deaths can be lessened to a major degree only by centering the attack on driving habits and a proper selection of drivers. The attack, to be fully effective, must employ, in addition to measures of education and persuasion, positive means of stopping the violation of well-known and easily understood rules of safety.

With the aid of traffic experts and law enforcement officers the Bureau of Public Roads has made a careful and detailed study of the safety problem and has prepared recommendations which, if put into effect by concerted effort of the numerous agencies involved, should greatly reduce the number of accidents. These recommendations were included in a report presented to Congress at the beginning of 1938 which placed particular emphasis on the necessity of uniform and adequate traffic laws in all of the States. The motorist should not be confronted with different and many times conflicting rules as he travels from State to State. While uniformity is in itself a desirable thing there are more serious reasons for urging uniform and adequate laws. In some States drivers are not required to be licensed. Some States have no minimum age limit for drivers, no prohibition against the licensing of habitual drunkards, narcotic addicts, or those afflicted with mental disability. Some States do not require tests to determine physical fitness to drive. Some state laws do not set forth complete rules of the road. Adoption of the uniform laws prepared by the National Conference on Street and Highway Safety offers easy and complete correction of this confused situation.

Among the most important provisions of these laws are those relating to revocation of licenses. There is no excuse for permitting any drivers to continue to have a succession of accidents. Every State should exercise complete and final authority over the issuance and revocation of drivers' licenses. For serious offenses, such as manslaughter, driving under the influence of intoxicants, failure to stop after an accident, and reckless driving, it should be mandatory upon the state licensing authority to revoke the driver's license. The power to revoke licenses for the worst offenses and suspend them for less serious ones is the most effective weapon of society in attacking this problem. Other important provisions of these laws relate to compulsory inspection of motor vehicles and compulsory reporting of accidents.

INTER-AMERICAN HIGHWAY

Nearly half of the projected Inter-American highway from Laredo, Tex. to Panama is now improved with gravel or higher type surface. When completed, this highway will extend 3,305 miles through Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama. The present improvement is as follows: 1,083 miles of paved road, 447 miles of gravel road, 43 miles of graded earth road, and 1,732 miles of ungraded road or trail.

Over half of the entire route lies within Mexico, where 805 miles have been improved and 1,015 miles remain unimproved. All of the 236 miles lying within Guatemala have been improved. The route within the other countries is reported as follows: El Salvador, 103 miles improved, 88 miles unimproved; Honduras, 23 miles improved, 67 miles unimproved; Nicaragua, 35 miles improved, 210 miles unimproved; Costa Rica, 48 miles improved, 308 miles unimproved; and Panama, 323 miles improved, 44 miles unimproved.

Substantial progress was made during the year ended June 30, 1938, particularly in constructing bridges and in locating and planning links of the highway. In each of the countries traversed by the route, interest in road construction has been aroused and efforts concentrated on the route from Panama to the United States.

The first 765 miles of the route, from Laredo, Tex. to Mexico City, has been constructed by the Mexican

Government and is now carrying large numbers of tourists from the United States. If highway programs are carried out as now projected, an all-weather road will be completed as far south as Choluteca, Honduras, a distance of 2,307 miles, by the end of 1941.

THE MOTOR BUS INDUSTRY

By Carl W. Stocks

Editor, *Bus Transportation*

GENERAL

In any discussion of the bus industry it is essential to bear in mind that there are two main groups into which the industry naturally divides, *i.e.*, companies operating intercity or long-haul service, as compared to those offering purely local service within the limits of a single city with its adjoining suburban areas. Both types of carriers have enjoyed a fairly satisfactory volume of riding during 1938. Operating revenues of local. city and suburban carriers were approximately the same as in 1937. Losses incurred in the early part of the year are not likely to be made up in the last half, although third quarter operations in 1938 were ahead of a year ago. Operating revenues of the intercity carriers promised to run one or two per cent ahead of the 1937 record.

In considering these comparisons, it must be borne in mind that 1937 was an exceptionally good year for the bus industry. In fact, it was the best year the industry has ever enjoyed. Bearing in mind the business recession carried over into the early part of 1938, the fact that the year's earnings approached or equalled the 1937 record. may be regarded as a very favorable comparison.

The percentages given above represent purely general ratios for the industry as a whole. In individual cases, or in certain territories, the increases or decreases may have been greater or less, depending on local employment conditions, and upon other factors affecting bus riding. In the east, for instance, the intercity carriers undoubtedly benefitted from the rail fare increase from 1½ cents to 2 cents a mile, which went into effect during the summer. Likewise, certain city carriers experienced increased riding and revenue as the result of a downward revision of the fare structure. Moreover the increasing trend toward the substitution of bus operation for street railway lines is another factor which has tended to increase the volume of bus revenues of carriers in this group.

EQUIPMENT DEVELOPMENTS

Developments and improvements within the industry itself were marked during the year by the introduction of several new types of bus equipment and the improvement of terminal and other facilities for the comfort and convenience of the public.

Equipment innovations included the introduction by the Twin Coach Company of an eight-wheel, diesel propelled vehicle, with a seating capacity of 58. designed for city transportation. Including standees, this vehicle can accommodate 120 people and is looked upon as one of the first practical rubber-tired units to equal the capacity of the larger electric trolleys.

A new hydraulic transmission was introduced by the General Motors Company which eliminates gear shifting and simplifies the driving of a motor bus to a point where the operator only has to step on the accelerator to go and on the brake pedal to stop. The result will be a smoother, more solid and more comfortable ride.

Refinements to diesel engines designed especially for bus service were announced during the year by the General Motors Company. and a new diesel engine for bus use was brought out by the Mack Motor Truck Corporation.

The year also saw the first large scale adaptation of air conditioning to intercity buses. Approximately 300 vehicles so equipped were in use by the few companies which adopted this innovation. Naturally enough, this type of equipment finds its greatest use in the hot weather belt, and in the arid desert regions of the west. Air conditioning also became popular in a number of bus terminals.

Many other refinements of a lesser nature were announced, the manufacturers and operators alike being spurred on by the conviction that, to keep abreast of modern travel demands, the bus industry must provide a service which equals and, wherever possible, surpasses the features which make private automobile travel so attractive.

SIZE OF THE INDUSTRY

The latest available figures show that the bus industry operates a total of 130,600 vehicles, representing 51,500 buses operated by common carriers and 78,100 by school transportation systems and other private nonrevenue carriers.

The common carrier division of the bus industry is represented by about 4,150 companies, of which 3,000 are intercity carriers, 730 are city carriers and 420 companies operate in sightseeing and other miscellaneous forms of common carrier service. The intercity and long-haul carriers operate approximately 24,750 buses, the city carriers 24,500 buses and the sightseeing and other miscellaneous carriers about 2,250 buses. There are 345,000 miles of highway traversed by intercity route, 22,300 miles of streets in cities used by local routes and 2,600 miles of sightseeing and other miscellaneous routes, or a total of nearly 394,000 miles of highways and city streets covered by common carrier bus routes.

Although numerically greater, the non-common carrier phase of the industry is, of course, far less important from the standpoint of investment and service to the public. This phase of the bus industry is represented largely by 78,100 buses operated by or for public schools, school districts, colleges and other educational institutions. These school vehicles operate over 1,000,000 miles of route during the 200 days of the school year and give approximately 6,500,000 rides daily. Also in the non-common carrier group are about 1,000 vehicles operating in miscellaneous nonrevenue service, such as apartment house buses, hospital vehicles, hotel buses and the like.

PASSENGERS AND REVENUE

During 1937, the latest figures available, about 3,442,000,000 revenue passengers were carried by common carrier buses. Of this total, 2,810,000,000 persons were city passengers, 629,000,000 were intercity passengers and about 3,500,000 represented people who went sightseeing or on other miscellaneous bus trips.

The revenues of the bus companies during 1937 totalled approximately $499,000,000, representing $192,000,000 taken in by the local carriers, $299,000,000 taken in by the intercity and long-distance carriers and about $8,000,000 for the sightseeing and other miscellaneous carriers. The investment represented by the bus industry totals approximately $1,000,000,000, most of which has been put into rolling stock or into terminals, garages and other equipment essential for the operation of the service. Including the value of franchises and other rights, the valuation of the bus industry as a going concern would, of course, be considerably higher.

TAXATION

The tax bill of the bus industry has increased to alarming proportions during the past few years, causing authorities to express the well founded apprehension that further increases in the tax burden may force drastic curtailments to a service which quite obviously has become a public necessity, and one to which the public certainly is entitled. Even in 1932 the average intercity bus company paid $898 per bus annually in taxes, a figure which was considered excessive at that time. And yet by 1937 this had grown to $2,164 per bus per year. For city companies the 1934 tax average per bus was $1,764 annually, a figure which by 1937 had grown to $2,556 per bus. Plotted against revenues the averages show that for the first nine months of 1938, 10.10 per cent of gross revenues went for taxes in the case of intercity operators, and 11.33 per cent of gross revenues in the case of city companies.

FEDERAL REGULATION

The long distance carriers are beginning to realize some of the benefits resulting from the Federal interstate regulation which became effective in 1935, as well as some of the disadvantages. Chief among the latter is the endless detail and the added expense to which the carriers were put in complying with the law. Naturally enough, for a considerable time after the act went into effect, companies operating interstate service were called upon to spend a good deal of time supplying the Motor Carrier Bureau with information about their service and in familiarizing themselves with the administration of the act. None can doubt, however, that in the long run the long-haul carriers will benefit from this regulation, in much the same way that the railway carriers years ago learned the advantages, as well as the disadvantages, of Federal regulation under the I.C.C.

The interstate carrier does now have a certain amount of redress in cases where unfair competitive practices are being followed. In many instances the Motor Carrier Bureau has stepped in and used its police powers to good effect, both for the protection of the industry and the passengers.

To give one example of the work of the Bureau, the agency charged with the administration of the law, considerable headway was made during the year in ferreting out and prosecuting the share-expense travel racket which has plagued both the bus industry and the public for a number of years. It was the custom of parties engaging in this practice to arrange, on a commission basis, what was known as share-expense travel. Ostensibly such parties brought together people who wished to travel to the same point and who were willing to share the expense of the trip. In actual practice, most of the "bureaus" engaging in this practice operated merely a cut-rate bus service and sometimes an outright "gyp" proposition. Low rates often were made possible because the operators did not carry insurance, used antiquated equipment, usually second-hand passenger cars, and accepted no responsibility for the safe completion of the trip.

Through the efforts of the Motor Carrier Bureau and various cooperative agencies a number of these illicit "travel bureau" operators were sentenced to prison, fined and otherwise penalized for their illegal activities during the early part of 1938. The practice not only was suppressed in many cases but also received a great deal of publicity which helped to protect the public.

SALES PROMOTION

Merchandising has received an increasing share of attention during the year involving not only advertising but also efforts to dress up the service to add to its attractiveness. For instance, *de luxe* services have been experimented with by a number of companies. One company has sacrificed seating space in several buses that ordinarily would carry 37 persons to provide special lounge seats for only 23. The individual seats are deep-cushoined and not only provide more room between the seats but are eight inches wider than usual. In addition these coaches are equipped with air conditioning and a lavatory, the latter eliminating the need to make frequent rest stops. Specially constructed lights enable passengers to read at night without light reflection to other seats. A smartly uniformed hostess is aboard the coach to take care of the passengers' needs and to serve luncheons which are included in the fare. A slight extra charge is made for this service, which represents one example of the way in which bus companies are catering to the type of traveler who may be willing to pay a little more in return for extra conveniences.

But quite apart from any such *de luxe* services, there can be no doubt that the intercity bus traveler gets more for his dollar today in the way of comfort and convenience than ever before, while still enjoying the lowest rates of fares ever offered in the history of transportation in this country. Rarely does the long distance bus traveler of today pay much over a cent and a quarter a mile for safe, comfortable and speedy transportation that would have been beyond the wildest dream of ten years ago, and which in many respects is superior, and certainly more carefree, than travel by private automobile.

The trend toward lower fares in the field of city operation has already been indicated, but the subject deserves further mention. Twenty-five years ago the nickel fare was almost a universal rule on local street car lines. With the advent of the automobile, and particularly in the postwar period, street railway companies found themselves involved in a desperate struggle to maintain a satisfactory financial condition in the face of rising costs and increasing competition. Fare increases were resorted to, with the result that the 5-cent fare pretty much passed out of the picture and 6, 8 and even 10 cents became more common.

During recent years, however, there has been an increasing realization that the average person is unwilling, or unable, to pay more than a nickel for his local ride and that, in the long run, the lower rate of fare will earn a greater return for the company. The result is a definite trend toward lower fares for local riders. But any marked reduction in local fares would be impossible if the companies were compelled to bear the enormous investment, overhead and upkeep represented by a street railway system. Such considerations, coupled with the decided preference shown by the public for highway vehicles, have emphasized the continued and ever-increasing trend toward the substitution of buses for street railway lines. Latest statistics show that close to 600 cities in this country are served entirely by buses. In the majority of these cities a onetime railway has been abandoned.

THE OUTLOOK

All classes of motor bus companies are expected to gain as a result of the Government's financial pump-priming policies. Whether this will be merely a temporary gain remains to be seen. But revenues, like other forms of transportation revenues, tend to rise and fall in keeping with the general business condition of the country. A period of increased employment and prosperity naturally will have a good effect on both city and intercity carriers. If the evident signs of a pick-up in business are indicative of a continued upward trend, there seems every reason to suppose that 1939 may prove a record-breaking year for the bus industry. If the slump continues, or returns with the lessening of pump-priming activities, the chances are that revenues and riding during 1939 will remain more or less the same. The two World Fairs—in San Francisco and New York—undoubtedly will help swell long-haul business, but in the long run it will be the general business health of the country which determines results in 1939.

COMMUNITY TRANSIT

By John A. Miller

Editor, *Transit Journal*

GENERAL

Transit operations in the United States during 1938 were characterized by remarkable stability in the face of much uncertainty in the general business and industrial fields. Gross revenues of the transit industry totaled $744,091,000, only 4½ per cent below those of the preceding year, which was the best since 1931. The industry was not able to reduce its operating expenses in proportion to the reduction in gross revenue, however, but only to the extent of approximately 2½ per cent. As a result, the net operating revenue decreased by about 10 per cent. The situation was further complicated by the fact that there was a substantial increase in taxes despite the smaller volume of business. Earnings available for return on the industry's $4,000,000,000 investment were thus reduced to a rate of little more than 2 per cent.

PASSENGERS AND FARES

The number of passengers carried by the transit industry in 1938 totaled 12,663,167,200. This was about the same drop from the preceding year as was shown by the gross revenues, fares remaining virtually unchanged. In this connection it is notable that transit fares have advanced much less in recent years than have transit wages.

Changes in the volume of riding showed considerable variation among the different types of transit services. On the subway and elevated lines the drop was somewhat smaller than on the surface lines, while electrified suburban railroads had a slightly greater decline in patronage. Decreases in riding occurred in approximately the same proportion on both street railways and motor buses where there were no substitutions of one form of transportation in place of the other. A considerable number of such substitutions were made during the year, however, so that the net effect for the industry as a whole was a reduction in riding on electric surface railways and a slight gain on motor bus lines. Riding on trolley bus lines held up better than on most other forms of transportation. Moreover, there was a considerable extension in the amount of trolley bus operation so that the total number of passengers carried by these vehicles was substantially increased. For the year as a whole, the electric surface railways carried approximately 51 per cent of the total of 12,663,167,200 transit passengers, motor buses 27 per cent, rapid transit lines 18 per cent, trolley buses 3 per cent, and electrified suburban railroads 1 per cent.

OPERATING COSTS AND TAXES

Hourly wage rates of transit labor increased moderately during the year. Actual labor costs increased rather more than the hourly rates due to changes in working conditions, especially the granting of vacations with pay. Materials costs in 1938 were lower than the 1937 peak figure, but averaged approximately the same in both years. In consequence of the decreased volume of transit riding, some reductions were made in the amount of service operated, but not enough to enable the industry to cut expenditures proportionately to the decrease in income. As a result, the so-called operating ratio, *i.e.* the ratio of direct operating expenses to gross revenues, went up from 76.8 per cent to 78.3 per cent, the highest point reached in the entire history of the industry.

Taxes reached a new high-point, amounting to 9.86 per cent of gross revenues as against 8.76 per cent in the preceding year. Various factors were responsible for the increase in taxes; the most important probably being the increased contributions made under the Social Security Act. These contributions are felt with special severity by an industry which pays out 46 cents of every dollar of revenue in wages to its employees.

EQUIPMENT PURCHASES

The drop in the total volume of transit riding was reflected in reduced purchases of new equipment. Altogether, the total for the year 1938 was about 3,000 vehicles as compared with about 5,000 the year before. Motor buses again predominated in equipment buying; there being about 2,500 such vehicles purchased by the industry as compared with some 350 electric rail cars and about 200 trolley buses.

A significant trend in motor bus purchases was the increased number of diesel-electric vehicles bought by the transit industry. The first bus with this type of propulsion was put in service less than three years ago. As improvements have been made in design, however, the diesel-electric bus has gone ahead by leaps and bounds until now there are nearly 250 such units in service in various parts of the country. Another interesting development in the field of bus design was that of hydraulic transmission. Experimental operation of buses with hydraulic transmission has been going on for some time past, but it was not until 1938 that orders were placed for a sufficient number of such units to start commercial production.

A large majority of the new electric rail vehicles ordered in 1938 were street cars of the so-called Electric Railway Presidents' Conference Committee type. The relatively small number of rapid transit cars bought were mostly of conventional design, although one three-body articulated unit was ordered, embodying a number of the noise-reducing features of the Electric Railway Presidents' Conference Committee design for street cars. An innovation in trolley bus design was the introduction of dynamic and other forms of electric braking.

CHANGES IN SERVICE

Generally speaking, the changes in the types of service operated by the transit industry were fewer in 1938 than in most other recent years. In the large cities the mileage of electric railway track remained virtually unaltered while there were some increases in bus and trolley bus route mileage. In cities of medium size there was a decrease of about 500 miles of electric track, with a somewhat greater increase of bus and trolley bus route. In the smaller cities the trend continued toward the substitution of buses for street cars though the rate of changeover was slower than in past years.

In one interesting instance, on the municipal railway system at Detroit,

SUMMARY OF TRANSIT OPERATION IN THE UNITED STATES

	Operating Revenue Jan. 1–Dec. 31	Passengers Carried Jan. 1–Dec. 31	Miles of Electrified Track ‡ as of Dec. 31	Miles of Trolley Bus Route as of Dec. 31	Miles of Motor Bus Route as of Dec. 31	Number of Passenger Cars as of Dec. 31	Number of Trolley Buses as of Dec. 31	Number of Motor Buses as of Dec. 31
1890†	$ 90,617,211	2,023,010,202*	8,123*	0	0	32,505*	0	0
1902	247,553,999	4,774,211,904*	22,577*	0	0	60,290*	0	0
1907	430,687,858	9,583,081,000	34,382*	0	0	70,016*	0	0
1912	602,511,704	12,285,342,000	41,065*	0	#	76,162*	0	#
1917	763,325,092	14,726,914,573	44,835*	0	#	79,914*	0	39
1922	1,014,727,485	16,161,846,851	43,932*	22	685	77,301*	28	370
1927	1,084,439,961	16,855,435,276	41,967	31	18,007	70,309*	29	8,854
1932	745,323,819	11,745,985,108	34,742	276	26,604	64,585	285	16,693
1933	675,710,574	11,050,400,000	33,973	378	24,061	61,413	395	16,309
1934	710,374,526	12,103,200,000	32,028	467	24,933	58,225	448	17,411
1935	718,756,945	12,201,402,000	30,612	589	26,520	54,204	648	19,100
1936	765,756,000	12,984,842,000	29,319	850	27,717	51,730	1,154	22,104
1937	779,153,000	13,261,860,000	27,684	1,184	30,155	48,501	1,662	25,614
1938	744,091,000	12,663,167,200	26,185	1,474	32,042	45,466	2,002	26,477

* U. S. Census.
‡ Does not include electrified track of trunk line railroads doing exclusively long haul business.
† Includes cable and animal traction lines.
# Not available.

buses were introduced as substitutes for street cars at night and on Sunday on lines where the electric rail vehicles continue to operate on week days. Most notable among the trolley bus substitutions was that at Newark, N.J. where all street railway lines have now been abandoned except three which operate for a substantial part of their length through the city subway. In the rapid transit field, the outstanding event was the suspension of service on the Sixth Avenue Elevated Railway in New York. It is planned eventually to replace the elevated railway service by subway service, but the construction of the subway is as yet a long way from completion. In Chicago, ground was broken for the construction of the first subway in that city.

THE OUTLOOK

Indications are that the transit industry will probably have a somewhat larger volume of business in 1939 than in 1938. While revenue decreases from the preceding year were experienced on virtually all transit operations during the first 11 months of 1938, the industry's December business was definitely above that of the year before. With a continued upward trend in general business and industry it may be expected that transit will show substantial improvement in 1939, which, in turn, should result in a considerably larger volume of equipment buying.

MERCHANT MARINE

By Peter Bain

Consulting Naval Architect

REVIVAL OF MERCHANT MARINE ACTIVITY

Not since the frenzied construction of the World War period has any year witnessed merchant marine activity in the United States comparable in scope and commercial merit to that of 1938. An altogether different approach has marked the ship constituent of today's merchant marine requirements, the new departure, although to some extent worldwide in adoption, finding its greatest visible expression on our own ocean shores. Few comparatively, out of the several hundred vessels of the war-created merchant marine, were commercially fit. They had neither form nor quality; nor did they possess that correlation of design and equipment essential to ensure efficient, economical and competitive operation in any specific service. In a word, the United States was loaded up with a fleet of emergency constructed craft masquerading as an American merchant marine with only a bare nucleus worthy of the descriptive classification and saving the whole from again slipping into oblivion.

Previous to 1938, in one way or another, most of the unserviceable, emergency built ships had been disposed of but not until then was the problem of supplanting and supplementing the nucleus, long overdue for scrapping, with new, safer and purposely designed ships, fit alike for competitive commercial service and naval reserve duties when called upon, seriously faced. Up to Dec. 16 a total of 50 new merchant vessels had been contracted for through the instrumentality of the United States Maritime Commission. Plans had also been completed for another series of ships of about 16½ knots and somewhat similar to the C-3 type but with accommodations for about 60 passengers. Bids had been received for construction but contract awards awaited further study by the Commission. Plans, too, were on the drafting boards for three 23 knot vessels of about 35.000 tons displacement, with accommodations for 800 passengers, for operation in trans-Pacific service. Likewise, plans were being developed for cargo vessels somewhat smaller than the C-2 type and to be known as type C-1. They will be of about 7,000 deadweight tons, have a speed of around 14 knots, and be suitable for some of our foreign trades where the faster units of larger deadweight and cubic capacity can not be employed economically. It may be taken for granted that the activities of the United States Martime Commission constitute the dominating factor in the notable progress recounted.

NEW AMERICAN LINER

Of the 50 merchant vessels under contract Dec. 16, 1938 one was the 21-knot, 1,200-passenger *America* of the United States Lines trans-Atlantic service; four were 16½-knot cargo carriers for the Mediterranean service of the American Export Lines; ten were 16½-knot cargo carriers of the C-3 type; 20 were 15½-knot cargo carriers of the C-2 type, and three were combination passenger and cargo vessels of 16½ knots speed, and 490 ft. length, each with accommodations for 63 passengers, for the Gulf-East Coast of South America service of the Mississippi Shipping Co. of New Orleans. Twelve 16½-knot tankers, additional to the foregoing were on order by the Standard Oil Co. of New Jersey, of which two were under purchase by the United States Navy and two by the Keystone Tank Ship Corporation, Philadelphia. The construction subsidy on the foregoing runs to several million dollars. According to the figures of the American Bureau of Shipping Dec. 1 there were under construction in United States shipyards as additions to the seagoing fleet of the American Merchant Marine a total of 60 vessels of 511,990 gross tons. Miscellaneous construction consisting of tugs, barges, a fireboat and ferry accounted for 99 vessels of 43,320 gross tons. A seagoing dredge of 3,800 gross tons and Diesel engine propelled was also under construction for the U. S. Engineers Department, Washington, D. C. Fifty new ships a year for ten years is reputed to be the goal set by the Maritime Commission for its merchant marine rehabilitation program.

The new transatlantic liner *America,* building at Newport News, will be 723 ft. long, 92 ft. beam, and 75 ft. deep to promenade deck. All of the latest safety devices will find a place in the completed ship as well as fire resisting materials in the structural detail. Lifeboat facilities will provide a seat for each passenger and crew member. Most of the lifeboats will be motor propelled and radio equipped. Modern and large accommodations for the crew include a recreation deck. Passengers of three classes are cited in the accommodations specified. The contract for construction was signed Oct. 22, 1937 at the bid price of $15,750,000 which is subject to adjustment in course for labor and materials cost variation. Under the contract, the *America* must be completed within 852 days from date of signing.

NEW CARGO VESSELS

On Aug. 11, a contract was placed with the Bethlehem Shipbuilding Corporation of Quincy, Mass. for the construction of four cargo vessels at an approximate cost of $2,559,000 each for account of the American Export Lines Inc. and its Mediterranean-Black Sea service. This constituted the first construction contract to be executed by a privately owned American flag shipping concern in compliance with the terms of the permanent Government subsidy agreements under the Merchant Marine Act of 1936. The four vessels represent the initial step in a program of ten to be added to the American Export Lines fleet within the next five years. The new ships are of a standard design developed by their owners and approved by the Maritime Commission. They will be 475 ft. in length, have a displacement of 14,450 tons, a cruising radius of 15,000 miles, a speed of 16½ knots and be steam propelled. Cargo capacity represents a considerable increase over the line's existing ships; in addition, cargo loading and unloading equipment will be the latest available. The American Export Lines fleet of 24 ships is among the largest of such units in the American Merchant Marine.

The C-3 cargo vessels belong to a

standardized design developed by the technical staff of the Maritime Commission. Their deadweight tonnage will be around 11,900, their length 492 ft. overall, their beam 69½ ft., depth 42½ ft. and draft loaded about 27¼ ft. Propulsion will be by geared turbine connection to a single screw, steam being supplied to the turbine through oilburning watertube boilers. Crew quarters located amidships, besides being light and airy, will be supplied with running hot and cold fresh water. The vessels will be suitable for operation on practically any trade route and will be available for charter or purchase by private steamship owners or operators under the terms of the Merchant Marine Act of 1936. Five cargo holds, three forward of the engine and boiler space and two aft, are provided. The new ships will be of shelter-deck type with raked stem and cruiser stern and be subdivided by seven watertight bulkheads. Sixteen electric cargo winches and hydro-electric steering gear of approved design with telemotor control from the wheelhouse and at the after steering station, will be installed. On the boat deck will be a radio room, a gyro room and a fan room. Other features will be a refrigerator system for cooling the ship's stores, and complete lifesaving and safety equipment, all as required by the Bureau of Marine Inspection and Navigation.

On Nov. 21, a contract for six of the C-3 vessels was placed with the Federal Shipbuilding and Dry Dock Co. at Kearny, N.J. at its bid price for each of $2,443,000, subject to later adjustment. On Nov. 29, the Sun Shipbuilding and Dry Dock Co. of Chester, Pa. received a contract to construct four more of the type at its bid price of $2,729,000, also subject to adjustment later. These will be Diesel propelled instead of through the medium of a steam turbine. This latest contract brought to a total of 14 the number of Diesel propelled cargo vessels which the Maritime Commission has under construction for the American Merchant Marine, the balance of ten being of the C-2 type.

On Nov. 10, the Maritime Commission received bids on its new design combination passenger-cargo single screw C-3 ships but up until Dec. 16, no construction contracts had been placed. The bids included propulsion mediums of both Diesel and steam turbine equipment and covered from one to six vessels of approximately 11,926 deadweight tons, 492 ft. length, 69½ ft. beam, 42½ ft. depth, and 28½ ft. draft. Accommodations are provided for about 60 passengers. The standard design C-2 ships have a speed of 15½ knots, a displacement of 13,900 tons, a deadweight of 9,291 tons, a cruising radius of 13,000 miles, a length of 435 ft., a beam of 63 ft. and a load draft of 25¾ ft. These vessels embody the latest developments in construction practice, machinery and equipment layout, all national defense features and those relating to the provision of commodious quarters for both officers and crew members. All quarters are located amidships and occupancy of single rooms is limited to four persons. They will be suitable for operation on practically any ocean route and will be available for purchase by private steamship operators under the terms of the 1936 Merchant Marine Act while in course of construction. If they are not disposed of privately in the above manner, it is planned to employ them as replacements on the Government-owned lines.

Construction of 12 of the C-2 ships represented the largest peacetime order for merchant cargo tonnage ever placed in the United States. It initiated, too, an orderly replacement program by the Maritime Commission to rehabilitate the country's ageing merchant fleet of World War origin. Eighty-five per cent of what remains of this fleet will be obsolete by 1942, the greatest degree of obsolescence being apparent in cargo carriers, not a single vessel in this category having been built for foreign commerce in almost 16 years. Four C-2 type ships, Diesel engine propelled, are under construction by the Tampa Shipbuilding and Engineering Co. of Tampa, Fla., the award being placed on a bid price of $7,252,652. On May 5, contracts for eight more C-2 ships were placed, four each being given to the Federal Shipbuilding and Dry Dock Co. at Kearny, N.J. and the Sun Shipbuilding and Dry Dock Co. at Chester, Pa. The Federal bid was for steam turbine propelled vessels and amounted to $1,995,000 for each on an adjusted price basis. That of the Sun was for Diesel engine propelled vessels and amounted to $2,075,000 for each on a fixed price basis. On June 3, the Newport News Shipbuilding and Dry Dock Co. was given a contract for four more of the steam turbine propelled C-2 ships, its bid amounting to $2,080,000 for each unit. All of the vessels must be completed within 600 days from signature of the contracts.

Emory S. Land, chairman of the United States Maritime Commission, announced on June 14 that they had increased from four to six the vessel awards to the Federal and Sun companies. Both concerns had previously submitted bids on six as well as on four ships, these being, respectively, for six of $1,967,000 each and of $2,065,000 each on a fixed price basis. In increasing the awards, naturally the construction contracts on each became based on the bids submitted on the higher total; this, in turn, reduced correspondingly the contract prices for the original four vessels. Explaining the Commission's action, Chairman Land said: "At the time of issuing the invitation for bids, the Commission believed that it was necessary to arrange presently for the construction of only twelve such vessels. Subsequent events, however, caused the Commission to determine that it is essential to secure at this time the construction of sixteen of such vessels."

NATIONAL DEFENSE FEATURES IN NEW TANKERS

The Standard Oil Co. of New Jersey, under an agreement with the United States Maritime Commission, is building a fleet of speedy tankers at a cost of $37,556,004 of which the Maritime Commission is contributing $10,563,000 for various national defense features embodied. Shipyards receiving contracts for the construction of three each were Newport News Shipbuilding and Dry Dock Co.; Bethlehem Shipbuilding Corporation (Sparrows Point Yard, Baltimore); Sun Shipbuilding and Dry Dock Co. Chester, Pa.; and Federal Shipbuilding and Dry Dock Co., Kearny, N.J. These tankers will have a speed of 16½ knots fully loaded as against 12½ knots for their ordinary commercial sisters. Their 12,800 horse-power propulsion equipment is expected to develop an increased 300 per cent effectiveness by comparison. They are each 525 ft. long, of 16,300 deadweight tons and have a cargo capacity of approximately 150,000 barrels.

High speed tankers are an urgent need of the Navy; hence, it is understood that the new vessels will be capable of doing 18½ knots fully loaded when required. Admiral William D. Leahy, Chief of Naval Operations, in endorsing the new tanker design, stated in a letter to the Maritime Commission that the Navy Department "considers that the Commission, in encouraging the construction of ships of this type, is making an invaluable contribution to the national defense in the direction of solving the vital problem of potential fuel supply to the fleet." On March 4, announcement was made that two of the tankers had been allocated to the Keystone Tankship Corporation of Philadelphia. The Keystone concern, an independent oil transporting organization, will acquire two of the first four completed tankers. On Nov. 18, the Maritime Commission announced the sale to the Navy Department of another two of the tankers, or oilers as they are known in Navy parlance.

The first of the fleet of 12 was expected to leave the ways by the end of the year. In any case it is certain to be the first vessel to take the water in the construction program of the Maritime Commission's merchant marine re-establishment. The high speed or excess of it over normal commercial operation and the other equipment facilities of a national defense character constituted an increased expense, to the offsetting of which the Maritime Commission contributes the $10,563,000 already noted. On Feb. 7, the Socony-Vacuum Oil Co. placed with the Bethlehem Shipbuilding Corporation an order for two tankers in line with a program of building a minimum of two such vessels a year for orderly replacement of its 42 oil vessel fleet in North Atlantic and intercoastal service. These tankers will have a top speed of 15 knots and, although basically sister ships of Socony's new *Mobiloil* and *Mobilgas,* they will displace 16,250 tons, 1,000 tons more than the two above-named, and embody refinements of hull and machinery that will make them faster with the same 4,000 horsepower, high pressure steam turbine propelling installations.

Additions to the American Merchant Marine reaching the launching stage during 1938 included the *Panama* and *Ancon* for the Panama Railroad Steamship Co.; the *Quaker* and *Cavalier,* two 4,200-ton freighters for the Philadelphia and Norfolk Steamship Co.; an 18,500-ton tanker, the *Robert H. Colley,* for the Atlantic Refining Co.; a 13,000-ton tanker, the *R. W. Gallagher,* for the Standard Oil Co. of New Jersey; the *Pan-Maryland,* an oil burning tanker of 13,000 tons deadweight capacity, 13 knots speed, and a cargo capacity of more than 4,400,000 gallons; the tanker *Connecticut* of 12,600 tons and capacity of 102,500 barrels or 4,300,000 gallons, for the Texas Company. This vessel is 490 ft. long, of 65 ft. beam and 13.5 knots speed. The 450 ft. tanker, *Pan-New York,* sister ship to the *Pan-Maryland,* for the Pan-American Petroleum and Transport Co., also reached the launching stage.

SUPERLINERS AS MERCHANT MARINE COMPONENTS

The somewhat vexed question of superliners as components of an American merchant marine, particularly in the rich North Atlantic travel field now dominated by express vessels of foreign nations, came to life again during 1938. Information became available to the effect that the research department of the Maritime Commission had the matter under review, the circumstance pointing to the conclusion that the government had not closed the door finally against their inclusion in our merchant fleet re-establishment program. Review of the question, it appears, is being undertaken chiefly as a result of the continued interest of President Roosevelt who, among others, has received appeals from both within and without the shipping industry asking or suggesting further consideration. The Maritime Commission in 1937, in its exhaustive survey of the existent status of the American merchant marine, its immediate future and distant future prospects, frowned on the very idea of our ever again bringing superliners into the merchant marine picture. Other times, other needs, other information, other people, other knowledge, not infrequently, in whole or part, contribute to other decisions; thus, it seems no remote possibility to expect, during 1939, a complete reversal of the survey decision banning superliners as a constituent of our new merchant marine objective.

Because of their size and cost, initial and operating, the *Normandie* of the French Line and the *Queen Mary* of the Cunard-White Star Line are generally considered successful only if the valuable assets of national prestige and advertising publicity are included in their respective profit and loss accounts. On the other hand, directors of both ship lines have declared these great ships to be paying propositions; in proof thereof, would a *Queen Elizabeth* be launched and outfitting, and a still larger *Normandie* be projected? The Cunard-White Star Line has maintained an attitude of the strictest secrecy concerning the *Queen Mary's* cost and operating expenses and this policy has tended to increase speculation as to her actual status as an investment. Sir Thomas Brocklebank, a director of the line, on the occasion of a visit here in 1938, apparently cognizant of the existing uncertainty regarding the big ship's revenue-producing value, announced his intention, once and for all, to dispel misapprehension concerning the

Queen Mary's financial record. Said Sir Thomas: "The *Queen Mary* is definitely a paying ship for us and we are well pleased with her drawing power and her record, despite the fact that these are relatively hard times. In making the foregoing statement I am computing everything; her depreciation, debt service and her allotted share in maintenance of offices, which obviously gives an ultra-conservative tone to the picture, since office cost shares are charged off to liners on the basis of their original cost."

In an address before the Merchant Marine Conference, George Gaede, passenger traffic manager of the American Export Lines, presented a detailed analysis of operating costs to prove that superliners would pay, and declared that opposition to them in this country existed largely because of the "absence of an intelligent, vigorous effort to combat negative opinion."

On May 27, 1938, the *Queen Mary* at sea on her way from New York to Plymouth, Cherbourg and Southampton, completed two years of service during which she carried 116,787 passengers, a world record for the period. She had made 86 crossings. In August she wrested the records set by the French liner *Normandie* for east and westbound voyages between Ambrose Channel Light and Bishops Rock Light in the English Channel. Having regard then to the foregoing, it seems well within the realm of probability that two superliners for North Atlantic service will, before many years pass, still further dignify and enhance our merchant marine status.

THE QUESTION OF GOVERNMENT OWNERSHIP

Complete government ownership of the American merchant marine fleet is not only quite possible but, for certain services where maximum available subsidies would not prevent loss, it apparently is already under way, opines the *Index* published by the New York Trust Co. "The major reasons for our losing position in the intense competition prevailing among international shipping lines are widely known," it states, and continues: "It has and does cost more in terms of both labor and materials to build vessels in American shipyards than anywhere else, and, in addition to the extra capital charges thus incurred, it has and does cost more to operate a vessel under the American flag, paying American wages, than under the flag of any other nation." In discussing the future of the American merchant fleet, the *Index* believes "there remain but two possibilities: an indicated long range government policy with specific terms of assistance sufficiently attractive to private owners and operators to interest private capital, otherwise the aims and desires of the government for our merchant marine must be met by capital supplied from public funds."

The adventure of the United States Maritime Commission into government ownership policies was sharply criticized by Joseph W. Powell in his presidential address before the 46th annual meeting of the Society of Naval Architects and Marine Engineers in New York, Dec. 1. He indicated, too, that the administration of the Commission at times during 1938 had shown "a lack of sympathy to American shipbuilding and ship operation," and that governmental measures had unreasonably raised the costs of private operators, particularly in the unsubsidized coastwise, intercoastal and Great Lakes fleets. Among such actions, Mr. Powell instanced the attack on the shipbuilding industry Feb. 17 through a letter to President Roosevelt by the then Commission chairman, Joseph P. Kennedy, with reference to high construction costs as shown by the bids received on the C-2 cargo vessels. He characterized it as "without justification" and helping to discredit a group "that deserved far better at the Commission's hands." He also named "the fetish for safety that guides our governmental policy," as increasing shipping costs, and declared that with ships "so much safer than nearly any other means of transportation, no excuse will exist for a long time to come for further advance in this direction."

"Advance of the Commission into the field of government ownership has been so rapid as to be appalling to those of us who believe that no permanent gain is discernible in that direction," Mr. Powell said. "One of the principal American shipping companies has succumbed to government ownership and operation, and other activities of the Commission clearly indicate an advance toward complete government control that can only lead to ultimate disaster, and impels us to voice our strong opposition in the full belief that the same progress could have been accomplished without committing the government to its present indicated policy."

Establishment by the Commission of standards in an attempt to provide a foreign trade fleet of approximately 500 vessels of 3,000,000 tons has, according to Mr. Powell, increased the costs of shipping interests operating 1,500 ships of 7,000,000 tons in the unsubsidized merchant marine, limited their field of competitive usefulness and threatened the existence of no small part of this fleet with the shadow of direct government competition. Mr. Powell noted an improvement in labor relations in the shipping and shipbuilding industries which he said had been furthered by "the will of the Commission to enforce discipline on its ships." Establishment of a Maritime Labor Board marked the first step in the control of seagoing personnel, and while but a step in the right direction, it is to be hoped, he added, that future developments will place the necessary authority in the hands of this Board to remedy the disgraceful conditions that have contributed so much to discredit American-flag ship operation.

Undoubtedly with the intention of meeting the foregoing criticisms, M. L. Wilcox, Director of Operations and Traffic for the Maritime Commission, in an address delivered before the Traffic Club of Baltimore Dec. 6, pointed out that the Merchant Marine Act of 1936 which created the Maritime Commission states in its declaration of policy that the United States shall have a merchant marine sufficient to carry a substantial portion of its waterborne export and import foreign commerce and that this merchant marine shall be owned and operated under the United States flag by citizens of the United States in so far as may be practicable. This means private ownership and operation and, only as a last resort, can the Commission seek any other basis. In his summary of the implied Dollar Line episode referred to by Mr. Powell, it was pointed out that the company was in an insolvent and defunct position with only two of its ships running in services which normally require 12.

Efforts had been made by the Commission continuously since its inception to find a way to keep this line alive. Plans were made, studied and tried with varying degrees of success. In September, the Commission took the drastic step of acquiring 90 per cent of the stock of the line in order to avoid its complete and final demise. As of Dec. 6, seven ships of the line were in operation and a definite schedule had been prepared calling for operation of the balance of the fleet necessary to maintain the services. In the light of the foregoing, it seems evident that, without interest and action by the Maritime Commission, no service under the American flag would have been operating from the Pacific to the Orient at the year end. The American President Line, formerly the Dollar Line, resumed this country's only passenger service around the world when the *President Adams* on Nov. 4 sailed from Jersey City for the Pacific Coast and the Far East. The day following, bound for New York and the Far East, the *President Monroe* sailed from San Francisco. For about five months there had been no passenger ship in around-the-world service flying the American flag. All of the President liners have been more or less in process of reconditioning, $2,000,000 having been earmarked for that purpose by the Maritime Commission.

THE GOVERNMENT'S SOUTH AMERICAN SERVICE

Reverting to Mr. Powell's further criticism which hinted at the South American situation, and again to the address of Mr. Wilcox, it appears that this trade was served by passenger ships of two lines, one British giving a fortnightly service and one American giving a similar service. There were any number of foreign flag freight ships in the trade but only one American flag cargo service, this being operated by the Maritime Commission through managing agents. It was desired to improve the passenger service and to get government operation divorced from the cargo business. There was absolutely no hope of getting new ships for the passenger service under private ownership, so the Commission acquired three ships—*California, Virginia* and *Pennsylvania*—through purchase from the Panama Pacific Line. Under the agreement, the Commission paid the Panama Pacific Line $9,889,900 for the three vessels, the payment being applied to the satisfaction of $5,139,900 in mortgages which the Commission held on the liners and the balance credited on obligations to the Commission of the United States Lines of which the Panama Pacific Line is a subsidiary.

The three vessels, now known respectively as the *Uruguay, Brazil* and *Argentina,* are twin screw turbo-electric propelled ships of slightly over 600 ft. in length, each capable of a speed of 18 knots. Following reconditioning and refitting, a fortnightly service from New York to Rio Janeiro, Santos, Montevideo and Buenos Aires was inaugurated Oct. 8 with the sailing of the *Brazil.* Known as the Good Neighbor Fleet of the American Republic Line, the three *de luxe* passenger vessels were operated by Moore McCormack Lines until Jan. 1, 1939 for account of the Maritime Commission. From that date operation of the vessels was taken over under charter. The cargo line which was run by the Commission was joined together with the passenger line and that now is under private operation with government subsidy as permitted by the Merchant Marine Act.

The Government actually owns the three passenger ships in this trade and several of the cargo vessels operated in the service. The ships owned are chartered to the operator and are subsidized. In this particular trade there is, therefore, a combination of government ownership and private operation. The amount of the charter bid submitted by the American Scantic Line, affiliate of Moore McCormack Inc., was $36,600 charter hire per month for the entire fleet of 13 vessels. The Commission, in accepting the charter bid, intimated that the reconstituted American Republics Line would continue to serve all United States Atlantic coast ports as it had in the past. The service to East Coast South American ports which had been operated by the Munson Line, temporarily interrupted by foreclosure proceedings against the four vessels which the Line employed on the route, was resumed by the *Southern Cross* from New York on June 18. Thereafter it was maintained fortnightly under receivership with three similar ships until the Good Neighbor passenger fleet service became established. The net loss per voyage during the period was $9,047 on a total of eight undertaken.

All four of the Munson Line ships—*American Legion, Pan-America, Southern Cross* and *Western World*—became the property of the Maritime Commission through purchase under foreclosure proceedings. They have been offered for sale or charter, bids being receivable up to Jan. 12, 1939 for any one or more of the vessels. On Dec. 16, it was reported that the American President Lines, formed to take over the defunct Dollar Line, was seeking three of the ships for service in its New York-California-Manila trade, but whether by purchase outright or on a charter basis, it was not disclosed. On Sept. 24, a plan for reorganization of the Munson Line, whereby it would start business with a cash balance of $1,300,000 and other assets, was confirmed by Federal Judge Alfred C. Coxe. An agreement between trustees of the line and the Maritime Commission which had been approved led to the reorganization. Judge Coxe acted over protests by junior maritime lienors whose claims totalled about $250,000, and the expressed opinion of reorganization trustees that the line had no real prospect of success. The Munson Line was founded in 1876 and consisted of one sailing vèssel.

On June 8 the Maritime Commission approved the application of the Baltimore Mail Steamship Co. to transfer its five combination passenger and cargo vessels to the intercoastal service. This fleet formerly operated between Baltimore, Newport News and Norfolk and continental European ports. This line found it necessary to terminate its trans-Atlantic service because it could not legally be given any greater aid. The Commission did the best it could to keep the port of Baltimore open for American flag tonnage. The schedules of the government-owned and operated lines were rearranged so that Baltimore still has its weekly service to London and Hamburg, and fortnightly to Bremen; its fortnightly service to Havre, as well as to Manchester, Liverpool and other West United Kingdom ports. The Commission appreciates that a ten-knot service does not take the place of a 16-knot service, yet it should be borne in mind that the Maritime Commission placed American flag shipping in the service after the privately owned and operated line was no longer able to continue. It is understood that some of the new freighters are earmarked for service from the Bay ports. The five ships of the Baltimore Mail Line now operate in the intercoastal service vacated by the *de luxe* passenger liners transferred to the "good neighbor" East Coast of South America service.

THE MERCHANT MARINE ISSUE

Whether in the long run the American merchant marine will be government owned or privately owned and operated, for some considerable time to come it will be a mixture of both as at present. The important consideration, however, is the circumstance that, as far as the United States Maritime Commission is concerned, there will be an American merchant marine, privately owned and operated if possible, but, in any event, an American Merchant Marine. On Feb. 15, when President Roosevelt named Rear Admiral Emory S. Land a member of the Commission to succeed Joseph P. Kennedy as chairman, he let it be known that the new chairman was expected to continue the "two-fisted, hard-hitting" policies of his predecessor. Chairman Land appears to have measured up pretty well in the fulfilment of the duties demanded of him. No more convincing evidence need be adduced than that embodied in the criticisms of Mr. Powell concerning certain Maritime Commission policies. Not only are ships being built to supplement the American merchant marine but definite progress has been made in improving the efficiency of the personnel to man the ships. The steamer *Edgemoor* is under conversion into a schoolship at Baltimore. The sailing vessels *Tusitala* and *Joseph Conrad* are being employed for courses of training as is Hoffman Island in New York harbor. Training stations are also being planned at other strategical locations.

DUAL SUBSIDIES ON TRADE ROUTES

Over objections of the American-South African Line, which insisted on an exclusive subsidy, the Maritime Commission on Aug. 6 granted both it and the Seas Shipping Co. an operating differential subsidy under the provisions of the Merchant Marine Act of 1936. The trade route involved embraces Atlantic Coast ports of the United States and South and East Africa. The subsidy agreements cover a six months experimental period following which they may be automatically extended for 12 years at the option of the Commission and upon compliance by the companies with conditions of the agreement. The Commission deplored the inability of the two concerns to consummate a merger arrangement and expressed the hope that they would be able to do so soon. In any case they must arrange their sailings on a mutually agreeable basis, maintain uniform freight rates and pool homeward cargoes as conditions of the agreements.

The agreement with the Seas Shipping Co. requires that the latter complete plans for three new cargo vessels and obtain bids for their construction; make binding arrangements for the investment of at least $500,000 in its enterprise, subject to extension of the agreement for 12 years; make arrangements for the investment of an additional amount of $250,000 in cash when required to complete the construction program; simplify its corporate structure in manner satisfactory to the Commission and cancel at least $100,000 of inter-company debt. The agreement with the American-South African Line covering the Gulf and Atlantic Coast routes, requires completion of plans for construction of two combination passenger and cargo vessels within the contract period and the obtaining of bids therewith associated; also arrangements for the investment of at least $500,000 in cash in the company upon extension of the agreement for 12 years covering the North Atlantic route. The American-South African Line has operated on government subsidies of one kind or another since its creation by the United States Shipping Board in 1922. Until 1926 it was government owned. The Robin Line of the Seas Shipping Co. had been operating hitherto without a subsidy. From the legal standpoint, the decision is of considerable significance because of its interpretation of the portion of the new maritime law dealing with dual and exclusive franchises. The Seas Shipping Co. subsidy is estimated at approximately $170,000 a year and, among the other requirements above noted, it is predicated on 12 voyages annually by the company's fleet of four ships.

Altogether, there are 13 ship lines subsidized by the Government through the medium of the Maritime Commission. These and the routes on which they operate are as follows: United States Lines from North Atlantic ports to Europe; American Export Line from the North Atlantic to the Mediterranean; American Scantic Line from North Atlantic ports to Scandinavian and Baltic ports; American Republics Line from North Atlantic ports to the East Coast of South America; Seas Shipping Co. from U.S. Atlantic ports to South and East Africa; South Atlantic Steamship Co. from South Atlantic ports to Europe; Grace Line from North Atlantic ports to West Coast of South America; New York and Cuba Mail Steamship Co. from New York to Cuba and Mexico; Lykes Brothers from the Gulf to Europe and the Far East, the latter service having been curtailed because of unsettled conditions in the Orient; Mississippi Shipping Co. from the Gulf to East Coast of South America; American President Lines consisting of trans-Pacific and Around-the-World services; Matson Line from West Coast of United States to Australia; and P.A.B. Line from West Coast of United States to East Coast of South America.

The annual operating subsidy payments amount to approximately $13,000,000 and cover a total of 143 ships. It will be noted that the American-South African Line does not appear on the foregoing list although scheduled for inclusion in the South and East African trade along with the Seas Shipping Co. Notable among the operating subsidies listed is that of the American Export Lines of New York City. On Jan. 25, 1938 Joseph P. Kennedy, chairman of the Maritime Commission, announced that this concern had entered into a long term operating subsidy contract under which it agreed to build ten new cargo carriers in the next five years, construction of four of the ten being scheduled to start during the current year. American Export Lines owns and operates one of the largest fleets in the American merchant marine, its service employing a total of 24 ships. Inclusive of that of the American Export Lines, the Commission had then concluded long term operating subsidy agreements with eight steamship companies and calling for the construction of from 30 to 53 vessels up to and through 1942. The eight companies definitely committed themselves to build 30 ships, 18 of which were to be started in 1938. The contracts require the development of plans for 23 more. Short term operating subsidy contracts have been granted to seven other companies and, should these qualify for long term agreements, it will result in the construction of at least ten additional vessels. The American Export Lines, by the terms of its contract, will receive annually a Government subsidy of approximately $1,200,000. This compares with yearly payments of about $1,428,000 received under its former ocean mail contract. All of the long term operating subsidy agreements provide for their automatic cancellation and a return to the Government of 25 per cent of all subsidy payments made, in the event that construction commitments are not executed according to schedule.

COMMISSION FINDINGS ON TRAMP SHIP TONNAGE

On Feb. 16, 1938 the Maritime Commission recommended to Congress that no effort be made to develop a tramp fleet under the American flag at present, the recommendation being embodied in the Commission's report of its survey made in compliance with the Merchant Marine Act of 1936 which directed the Commission to "make studies and report to Congress as soon as practicable on Tramp Shipping Services and the feasibility of citizens of the United States participating in such service under United States registry." The Commission's general conclusion was summed up in a single sentence which stated: "Since American tramp operations are practically impossible without large subsidies and no justification appears to warrant the payment of such subsidies, it would appear inadvisable for citizens of the United States to participate in tramp service with vessels under United States registry." The report stated, however, that the Commission's conclusion should not be regarded as a condemnation of tramp type ships. There is evidence, the report said, that ships of a semi-tramp type may be useful auxiliaries to our liner fleets in certain trades, thus it may be desirable to study this phase of the subject more fully in the future after the more urgent problem of establishing strong liner services has been dealt with.

Summarized briefly, specific findings contained in the report indicated that the tramp ship was losing ground; that Great Britain and other relatively high wage countries are being displaced in the tramp field by countries having lower standards of living and lower wage scales; that foreign countries have given distinct preference under their subsidy policies to liner shipping, indicating that it is of greater value; the shift in fuel from coal to oil, the continued cheapening of speed and other developments are enabling the liner to an increasing degree to invade the domain of the tramp; in other words, to carry a larger share of the world's low value, heavy and bulky commodities. Many of the low value, heavy and bulky commodities among the leading seaborne exports and imports of the United States have already deserted or are deserting the tramp for the liner.

COMMERCIAL AVIATION

By Andrew F. Haiduck

Chief Engineer, Bellanca Aircraft Corporation

GENERAL

Increased safety, traffic and the possibility of increased mail rates on the airlines contributed to make 1938 another banner year for our domestic aerial transportation network. Statistics covering operations of domestic airlines and extensions to foreign countries show that 1,844,507 miles were flown per accident in the first six months of the year, an increase of 540,185 miles over the figure for the same period in 1937. In the same six months the lines flew 2,213,634 more miles and carried 113,511 more passengers than in the corresponding part of 1937. The only discordant note was a decrease in the amount of express carried. This showed a decrease of 318,045 pounds. However, the general business pickup in the second half of the year was reflected in record air express poundage for the months of August and September. In September particularly an all-time high in air express was recorded when the express poundage totaled 877,564 pounds.

Although no final figures are available for the last quarter, it appears that the total express poundage for the year will equal or surpass that for 1937. Also the sentiment of the operators is completely behind the efforts of the newly created Civil Aeronautics Authority towards the determination of a more equitable basis for mail contracts.

Civil aircraft production for the first nine months of 1938 decreased 28 per cent compared with the same nine months of 1937. The greatest drop was in the two-place 40-horsepower cabin airplane selling under $1,900. This decline is ascribed in part to the introduction of new 50-horsepower models which were not available in most cases until the second half of the year. The universal effect of the recession was also another contributing factor. However, manufacturers of commercial airplanes are preparing for a record year in 1939 for several reasons. In the first place the increased tempo of general business activity will undoubtedly release more money towards private flying. This factor, coupled with President Roosevelt's plan to train 20,000 civilian aviators a year, promises to open larger markets for commercial craft. In addition this Federal aviation program has as its direct aim the expansion of the commercial aircraft industry with commercial domestic and export orders. Military production on the other hand increased 95 per cent and exports 36 per cent for the first nine months. The total resultant production was 4 per cent above that for the same three quarters of 1937.

The importance of a suitable and adequate pilot and aviation personnel reserve as an essential arm of national defense was further emphasized by the affair at Munich and subsequent events. This resulted in the decision of the administration, late in December, to proceed immediately with an aviation program which contemplates expansion of the Air Corps to more than 10,000 airplanes, expansion of commercial aircraft production, and the annual training of 20,000 pilots. It is expected that the student pilot training will start in the spring of 1939. At the end of the year the United States had only 22,813 pilots of various degrees of proficiency, and 39,314 active student pilots, according to statistics of the Civil Aeronautics Authority.

SCHEDULED AIR TRANSPORTATION

Mileage. — American operated air carriers flew a total of 36,521,020 miles in the first six months, an increase of 2,213,634 miles over the same interval in 1937. The mileage above includes extensions to foreign countries. On the domestic lines only, miles flown totaled 33,142,289, an increase of 1,994,513. Air transport routes in operation totaled 67,738 miles, of which 32,333 were domestic and 35,405 foreign extensions. The average airplane miles scheduled daily was 234,922 as reported July 1, 1938. The domestic airlines had 51,888 trips scheduled in the same six months period, of which 48,628 were started. In addition 1,246 extra sections were flown. Of all trips both scheduled and extra sections 93.86 per cent were started and 88.44 per cent were completed. A total of 46,994 or 94.23 per cent of the trips started was completed. The average speed for all domestic lines was 152 miles per hour ranging from an average of 107 mph reported by one airline to 176 mph reported by another. The lastest equipment acquired by some of the airlines cruises well over 200 mph on scheduled routes.

Mail.—Air mail pound miles continued their steady uptrend for the first six months of 1938. A total of 7,156,705,087 pound miles was flown, representing a substantial increase over the figure of 6,415,816,653 pounds in the same season in 1937. The daily schedule operations with United States mail called for a mileage of 211,339. This was accomplished by 96 operators divided into 77 domestic and 19 foreign services. On July 1 there were 59,143 miles of mail airways in daily operation.

Toward the latter part of the year considerable interest was evinced in the award of an experimental contract to All American Aviation Inc. for an extensive short distance mail and express service utilizing the Dr. Adams pickup device. This arrangement permits picking up mail or express while in flight, thus eliminating the time and need for landing. It is expected that this system will make it possible to give airplane service to the smaller communities without the necessity of expensive airports. Already packages weighing 150 pounds have been picked up in this manner and deposited on the fly at their destination. This new service will cover Virginia, West Virginia, Maryland, Delaware and Pennsylvania in a comprehensive network feeding to the larger airlines.

Passengers.—Passenger traffic for the first six months exceeded that for the same time in 1937 by 24.20 per cent. All-time high records were set in September with 128,054 pay passengers, an increase of more than 8,000 over August, 1938 and of nearly 13,000 over September, 1937. Comparisons with July and August of 1938 and September, 1937 are shown in the following table:

	July, 1938	August, 1938	September, 1938	September, 1937
Companies operating	20	20	20	17
Companies reporting	20	20	20	17
Passengers carried (revenue)	110,141	119,912	128,054	115,245
Passengers carried (total)	127,590	139,805	139,297	130,296
Express carried (pounds)	541,346	605,400	877,564	720,479
Express pound-miles flown	319,728,510	359,762,242	463,453,744	437,292,739
Miles flown	6,270,990	6,191,715	6,151,147	6,213,632
Passenger miles flown (revenue)	42,299,393	44,975,857	49,493,504	47,146,761
Passenger miles flown (total)	50,859,047	54,839,240	54,805,506	54,229,561
Available passenger seat-miles flown	86,830,772	86,131,005	85,121,613	83,212,544
Revenue passenger load factor (per cent)	48.71	52.22	58.14	56.66
Total passenger load factor (per cent)	58.57	63.67	64.38	65.17

The average length of each passenger's trip was 436 miles. The baggage allowance per passenger was raised Oct. 1 to a maximum of 40 pounds. Heretofore, passengers had to pay an excess baggage charge for each pound over 35. The passenger load factor (percentage of seats occupied) increased from 55.60 per cent in 1937 to 56.73 per cent for 1938.

Air Express.—Air express was the only phase of scheduled air transportation which, in volume for the first six months of 1938, trailed behind the same interval in 1937. Total poundage for the 1938 period was 3,943,353 against 4,261,398 in 1937. However, substantial monthly increases in the latter half of the year probably brought the total for the year very close to that for 1937. Three possibilities for increasing air express now under consideration are, first, revision of contracts between airlines and the Railway Express Agency, and second, an independent air express organization with its own pickup delivery. One organization in the eastern part of the United States has already such a service in operation. In addition to airline transportation it has its own trucks for pickup service and distribution to centrally located airports. From the measure of its success it appears that this will ultimately be the logical system.

SUMMARY OF SCHEDULED AIRLINE OPERATIONS

DOMESTIC

	January-June, 1937	July-December, 1937	January-June, 1938
Miles flown	31,147,776	34,923,731	33,142,289
Passengers carried	464,068	638,639	576,319
Passenger miles flown	204,516,204	272,086,961	251,138,579
Available passenger seat miles flown	367,826,377	460,361,807	442,716,419
Passenger load factor (per cent)	55.60	59.10	56.73
Express carried (pounds)	3,416,666	3,710,703	2,991,657
Express pound miles flown	2,044,565,967	2,267,575,153	1,862,792,904
Mail carried (pounds)	9,834,493	[2]	[2]
Mail pound miles flown [1]	6,415,816,653	6,980,643,464	7,156,705,087
Mail payments [1]	$6,256,068.56	$6,844,078.68	$7,187,473.69

FOREIGN

	January-June, 1937	July-December, 1937	January-June, 1938
Miles flown	5,373,244	5,551,412	5,592,365
Passengers carried	89,246	75,627	90,506
Passenger miles flown	37,162,240	35,863,002	38,415,985
Available passenger seat miles flown	[2]	[2]	[2]
Passenger load factor (per cent)	[2]	[2]	[2]
Express carried (pounds)	844,732	941,966	951,696
Express pound miles flown	[2]	[2]	[2]
Mail carried (pounds)	361,615	352,565	373,589
Mail pound miles flown	[2]	[2]	[2]
Mail payments	$3,928,548.19	$4,265,519.71	$4,313,794.83
Miles flown	36,521,020	40,475,143	38,734,654
Passengers carried	553,314	714,266	666,825
Passenger miles flown	241,678,444	307,949,963	289,554,564
Express carried (pounds)	4,261,398	4,652,669	3,943,353
Mail carried (pounds) [1]	10,196,108	[2]	[2]
Mail payments [1]	$10,184,616.75	$11,109,598.39	$11,501,268.52

[1] Hawaiian operations are included in these figures.
[2] Not available.

Equipment and Personnel.—The lines had 362 airplanes in operation, consisting largely of the Douglas DC-2 and DC-3 types. The 250-mile per hour Lockheed 14 made its debut on several routes, breaking all previous schedule times. The major operators are now looking forward to experimental schedules in the spring of 1939 utilizing the mammoth four engined DC-4 with a seating capacity of 42 exclusive of the crew of five. Employment on the airlines was furnished to 12,546 persons classified as follows: 795 pilots, 623 copilots, 3,393 mechanics and riggers, 2,721 other hangar and field personnel, 4,567 office personnel, 321 stewardesses and 126 stewards.

Safety.—Airlines showed continued safety increases during the first half of 1938. American-operated air carriers flew 1,844,507 miles per accident and 13,161,571 passenger miles per passenger fatality during the first six months of 1938. This was an increase of 540,185 miles flown per accident and 2,176,188 passenger miles flown per passenger fatality over the figures for the same period of 1937. There were five fatal accidents during the first six months of 1938, in which 22 passengers, five pilots, five copilots, and eight other crew members lost their lives. In addition there were 16 accidents in which no fatalities occurred.

These statistics cover operations of all air carriers operated by companies in the United States, including the domestic lines and extensions to foreign countries. The domestic lines had 15 accidents, flying 2,209,486 miles per accident, and the foreign-extension lines had six accidents, flying 932,061 miles per accident. Persons involved in the 21 accidents occurring on the domestic and foreign-extension lines numbered 226, including passengers, pilots, copilots, and other crew members. Of these, 186 suffered no injuries and 40 were fatally injured. Causes of accidents were attributed as follows: personnel errors, 23.82 per cent; airplane failures, 10.05 per cent; weather, 19.05 per cent; airport and terrain, 9.52 per cent; other causes 9.52 per cent; and undetermined and doubtful, 4.76 per cent.

AIRWAYS

Modernization Program. — The $7,000,000 Federal airways modernization and expansion program is rapidly nearing completion and the commercial airlines will have available for winter operations a greatly augmented and improved system of airways complete with many of the most recently developed aids to air navigation. A large number of new radio stations, beacon lights, new type ultrahigh frequency stations and fields are now ready for use and others are being added as fast as construction can be completed and equipment installed. When the program reaches completion, at the end of January, 1939, the Federal Airways System will have been completely modernized and improved by the addition of 131 simultaneous radio range and radiotelephone stations; 30 loop type ranges; 100 cone of silence markers; 21 fan type markers; 7,000 miles of teletype circuits; as well as landing fields, beacons, and other airways aids.

The teletype weather communications system extension has already been completed. This extension increased the system by 7,000 miles of circuits, bringing the total to 21,790 miles, covering all of the 48 States with the exception of Maine, New Hampshire, and South Dakota. Eighty-one new simultaneous radio range and radiotelephone stations of the vertical radiator type which permit signal and voice broadcasts at the same time are being erected at points in 34 States, while 50 old style nonsimultaneous radio ranges are being converted to the simultaneous type. In addition, 30 ranges of the medium and low powered loop type are being installed. At these stations radiotelephone transmission is accomplished by interrupting operation of the radio range.

One of the most important items in the modernization program and an innovation which will have a most important bearing on safer aerial navigation has been the installation of ultra-high frequency cone of silence markers at all the new vertical radio stations and at 18 of the modernized stations. The cone of silence marker is a 75 megacycle radio transmitter which sends a signal patterned in the shape of an inverted cone up into the cone of silence that exists directly above a radio range station. It transmits a distinctive and positive signal which gives the pilot definite assurance that he is passing through the cone of silence. At the same time a small red light flashes on his instrument board as a double check on this fact.

Direction Finders.—The purchase and installation of several direction-finding ground stations as an additional safety factor on the airways was authorized in October by the Civil Aeronautics Authority. The direction finders which are to be made available to the domestic airline operators will be used as a supplement to existing radio beacons and other airway aids. It is the purpose of the Civil Aeronautics Authority and the airline operators to ascertain whether the procedure of taking bearings on planes in flight with ground station direction finders has a practicable application to the Federal Airways System and will further safeguard the operation of domestic airliners by giving them an additional check on their position in flight. Such direction finders play an important role in Pan American's system of navigation both in Latin America and on its trans-Pacific route, and it is intended to determine whether they can be used as an additional aid to flight on the domestic airways system. In general, wherever the installation is made it is planned to install the DF's at strategic points so that they can take triangular cross bearings on aircraft in flight and thus give them a definite "fix" on their position at times when static or other interference with radio beacon signals might make it difficult for pilots to ascertain their own bearings definitely.

Airports.—On Nov. 1, 1938 there were 2,387 airports and landing fields in the United States distributed as follows:—

Municipal airports	790
Commercial airports	438
Civil aeronautics authority intermediate fields	269
Army airdromes	61
Naval air stations (including Marine and Coast Guard)	25
State-operated fields	49
Marked auxiliary fields	638
Private fields	92
Fields for miscellaneous government activities	25
Total	2,387

Airports and landing fields having any night lighting equipment:

Municipal	290
Commercial	90
Intermediate	267
Army	30
Navy	11
State	9
Auxiliary	14
Private	7
Total	718

Airport Survey.—A nation-wide detailed survey of airports has been started by the Civil Aeronautics Authority as the basis for its report to Congress on the advisability of Federal participation in the development and operation of a national airport system. The data to be collected will be concerned with the physical and functional capacity of existing airports and facilities, original cost, maintenance and operation cost and revenue. Economic data as to the volume of trade, resources of various communities and other material having a bearing upon the need for and ability to support air transportation will form an important part of the information gathered.

MISCELLANEOUS FLYING

Mileage.—Operators in the private flying classification flew 56,499,045 miles and carried 710,114 passengers in the first six months of 1938. These figures compare with 45,259,950 miles flown and 634,251 passengers carried during the same period in 1937. Private flying operations include all civilian flying except scheduled air transportation, and the category embraces exhibition and experimental flying, pressure flying, student instruction and other miscellaneous commercial operations.

Private Flying Division.—The Civil Aeronautics Authority, recognizing the steadily increasing importance of private flying to national security, expanded its private flying section to the status of a division in its organization. The duty of the division will be to guide the future normal expansion of private flying in the United States along sane and constructive lines, paving special attention to measures which will tend to reduce the relatively high percentage of accidents which has heretofore existed in this phase of aviation. This phase will also be slated for considerable expansion as a result of the pilot training program announced by the President in the latter part of December. The program contemplates the training annually of 20,000 civilian pilots. At the end of the year the plan most popular with the administration called for student training at several hundred universities. This program will result in the greatest boom miscellaneous flying has had since 1928.

Safety.—Operators in the private-flying classification flew 706,238 miles per fatal accident and 941,651 miles per passenger fatality during the first six months of 1938. In the private-flying category, which includes such operations as experimental, exhibition, sightseeing and charter, student instruction, and pleasure flying, there were 840 accidents in 56,499,045 miles of flying. Miles flown per accident were 67,261. Causes of the accidents in private flying during the first half of 1938 were divided as follows: personnel errors, 53.52 per cent; power plant failures, 15.59 per cent; airplane failures, 10.53 per cent; weather, 7.02 per cent; darkness, 0.19 per cent; airport—water or terrain—8.20 per cent; other, 3.94 per cent; undetermined or doubtful, 1.01 per cent.

AIRCRAFT PRODUCTION

Owing to several factors such as the recession and the introduction of new models this year in the light plane class, production of commercial planes fell off 28 per cent in the first nine months as compared with 1937. On the other hand the disturbed world-wide conditions and jealousies have been the direct cause of a 95 per cent increase in military production. The detailed tabulation of airplanes produced January-September, 1938 follows:

MONOPLANES	
Cabin type (landplanes):	
1-place	5[1]
2-place	989[2]
3- to 5-place	119[3]
6- to 11-place	36[4]
12- to 20-place	8
22-place and over	16
Total	1,173
Open cockpit:	
1-place	27[1]
2-place	24[5]
Total	51
Total monoplanes	1,224
BIPLANES	
Cabin type (landplanes):	
1-place	1
2-place	3
3- to 5-place	69
Total	73
Open cockpit:	
1-place	11
2-place	4
3- to 5-place	1
Total	16
Total biplanes	89
Total domestic	1,313[6]
For military use, including Coast Guard	944
For export	616
Grand total	2,873

CIVIL AERONAUTICS AUTHORITY

Under the provisions of the Civil Aeronautics Act of 1938, which became law when signed by the President June 23, 1938, the functions of the Bureau of Air Commerce were taken over by the newly created Civil Aeronautics Authority. This agency consists of five members appointed by the President with the approval of the Senate. The powers entrusted to the Authority as written in the act are those of regulation of air transportation, manufacture, and the encouragement and development of civil aeronautics. Until the enactment of this law Federal regulation was divided among several government agencies. The Bureau of Air Commerce regulated the industry from a safety standpoint and was responsible for the operation and maintenance of airways. The Post Office Department awarded mail contracts and the Inter-State Commerce Commission fixed the rates to be paid to operators.

Under the new law all of the above functions will be performed by the Authority consisting of five members. These members appointed by the President are: Edward J. Noble, chairman; Harlee Branch, vice chairman; G. Grant Mason, and Oswald Ryan. Clinton M. Hester was appointed Administrator. Broadly, the powers of the Authority are: (1) economic regulation of air transportation in a manner similar to that used by the Interstate Commerce Commission; (2) supervision of business practices of airlines; and (3) Regulation of manufacturing from the safety standpoint. The coordination of all supervisory activities in aviation in one body should result very obviously in more logical decisions as well as better realization by the Authority of the particular problems of both manufacturers, pilots and airline operators.

RESEARCH

General.—Since research is the basis of all technical progress and the superiority of any nation in the air is completely dependent on research, it is expected that government appropriations for 1939 will include a

[1] Includes 1 convertible plane (open or closed).

[2] Includes 1 amphibian, 1 seaplane, 3 convertible (open or closed), and 16 convertible (land or sea).

[3] Includes 1 amphibian and 3 convertible (land or sea).

[4] Includes 5 amphibians.

[5] Includes 1 seaplane.

[6] Includes 45 multimotor craft.

generous sum for this purpose. However, the National Advisory Committee for Aeronautics has continued its extensive research program limited only by the money available. Intensive investigations were made in the fields of aerodynamics, engine design, and hull design.

Aerodynamics.—Experimental investigations in this phase of aircraft design were directed largely towards the solution of the violent and sudden stall characteristics of the high speed airfoils now in common use on military airplanes, where speed is of paramount importance from a combat standpoint. The relatively numerous fatal accidents in the Air Corps from this cause finally led to the investigation of the practicability of a stall warning indicator. This was developed at the aerodynamic laboratories of N.A.C.A., and the installation consists essentially of another pitot tube installed in the nose of the airfoil and an actuating bellows. The pitot tube is located behind a small protuberance on the leading edge. This protuberance causes this section to stall first, resulting in a reduction in dynamic head on the pitot tube. This in turn actuates the bellows which is connected to a siren. In this manner the pilot is warned of an impending stall and can make the necessary control movements to change the altitude of the airplane. Extensive tests on tapered wings have shown that the violence of the stall can be somewhat alleviated by the use of aerodynamic twist of the wing. A revival of interest in the helicopter led to considerable theoretical analysis of the problems peculiar to the type.

Radio.—A notable development during the year was the perfection of the Terrain Clearance Indicator which measures altitude above the ground instead of altitude from sea level as is the case with the usual altimeter. The system consists essentially of a radio transmitter which simultaneously sends one signal to the ground where it is reflected upward and picked up on another antenna. At the same time this receiving antenna receives a signal directly athwartship from the transmitting antenna. The difference in time or phase is registered on a dial calibrated in feet.

Blind Landing.—The Army Air Corps again successfully demonstrated many blind landings. However, the arrangement is still in the experimental stage in the sense that it can not yet be released for universal use. An experimental model constructed for commercial use has also been tested by the engineers of the Civil Aeronautics Authority. Departing from the usual practice of other blind landing systems, the Metcalf system utilizes a straight rather than a curved glide beam. The greatest advantage of the system is its simplicity, requiring as it does only one small transmitter on the ground and one instrument in the aircraft.

Whereas in the first conception of the instrument the pilot actually looked through the ground glass at three lights on the ground, and made his approach by using their relative positions, he now follows exactly the same procedure by keeping three radio-operated spots properly aligned. As before, any movement of the plane off the proper glide path is indicated by a corresponding change in the position of the spots. The position of the center light in its relation to the cross hairs indicates to the pilot the position of the airplane with respect to his glide path, and the position of the cross hairs with respect to the complete pattern indicates the altitude of the airplane. Thus all of the information that the pilot needs to know is conveyed through the medium of a single instrument.

Airplane Design.—Progress in airplane design has been the result of meticulous attention to the elimination of all possible parasite drag. The latest type of flaps developed by N.A.C.A. have made it possible to reduce the size of wing required for a given landing speed with resultant increase in speed range. Safety has been also greatly enhanced in the new designs particularly with respect to stall characteristics. The quest for speed is tending towards the use of slots in conjunction with flaps. This was most strikingly demonstrated at the National Air Races by the German Fieseler Storch monoplane. This airplane equipped with fixed slots and flaps could almost hover over a spot in a manner very similar to an autogiro. At the same time it also had a very good speed range.

PERIODICAL PUBLICATIONS

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Marine News
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National Aeronautic Magazine
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Protectionist
38 Chauncy Street, Boston.
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30 Church Street, New York City.
Shipping Digest
420 Lexington Ave., New York City.
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National Electrical Contractors Assn., 420 Lexington Ave., New York City.

National Electrical Manufacturers Assn., 155 E. 44th Street, New York City.

National Federation of Textiles, 10 East 40th St., New York City.

National Lumber Manufacturers Assn., 1337 Connecticut Ave., Washington, D.C.

National Machine Tool Builders Assn., 1220 Guarantee Title Bldg., Cleveland, O.

National Metal Trades Assn., 60 East 42nd St., New York City.

Rubber Manufacturers Assn., 444 Madison Ave., New York City.

United States Brewers Assn., 21 East 40th St., New York City.

United Typothetae of America, Tower Building, 719 Fifteenth St., N.W., Washington, D.C.

TRANSPORTATION AND COMMUNICATION

Aerial League of America, 280 Madison Ave., New York City.

American Assn. of Railroad Superintendents, 111 Union Station, St. Louis, Mo.

American Railway Engineering Assn., 59 E. Van Buren St., Chicago, Ill.

American Road Builders Assn., 95 National Press Building, Washington, D.C.

American Steamship Owners Assn., 11 Broadway, New York City.

American Transit Assn., 292 Madison Ave., New York City.

Associated Traffic Clubs of America, 917 Majestic Bldg., Indianapolis, Ind.

Association of American Railroads, Transportation Building, 17th and H Streets, Washington, D.C.

Cruft Laboratory, Harvard University, Cambridge, Mass.

International Amateur Radio Union, 38 La Salle Road, West Hartford, Conn.

Maritime Assn. of the Port of New York, 80 Broad St., New York City.

National Aeronautic Assn., 1909 Massachusetts Ave., N.W., Washington, D.C.

National Council of American Importers and Traders, Inc., 45 E. 17th St., New York City.

National Highways Assn., Bass River, Cape Cod, Mass.

National Industrial Traffic League, 1 La Salle Street Bldg., Chicago, Ill.

National Traffic Service Assn., 105 N. Moore St., New York City.

North American Export Grain Assn., Inc., 2 Broadway, New York City.

Railroad Owners Assn., 502 Chandler Building, Washington, D.C.

Railway Business Assn., 38 S. Dearborn St., Chicago, Ill.

United States Bureau of Standards, Washington, D.C.

United States Naval Research Laboratory, Washington, D.C.

PART FIVE

SOCIAL AIMS AND CONDITIONS

DIVISION XIV

IMMIGRATION AND POPULATION

RACE CONDITIONS IN THE UNITED STATES

By Harry H. Laughlin

Eugenics Record Office, Carnegie Institution of Washington

CONNECTICUT'S SURVEY OF HUMAN RESOURCES

The Survey of the Human Resources of Connecticut has finished the first stage of its work and prepared Report Number One as of Oct. 1, 1938. The investigations of the survey fall into a score of research units, each of which concerns a natural subject of study. One of these research blocks concerns race descent in correlation with other qualities found among the members of 19 selected population-groups of the socially inadequate and handicapped classes, particularly the feeble-minded, the delinquent and the criminalistic of the State.

The Commission to Survey the Human Resources of Connecticut was appointed by Governor Wilbur L. Cross following authority given him by the General Assembly in Special Act No. 360 signed June 4, 1935. This Commission consists of Frederic C. Walcott, chairman; C. Charles Burlingame, Newton C. Brainard, Charles A. Moser, Nathan D. Prince, and Mrs. Sydney G. Davidson, secretary.

Report Number One was written by Harry H. Laughlin who is in charge of the Eugenics Record Office of the Carnegie Institution of Washington and is director of the Connecticut Survey. This report, dated Oct. 1, 1938, consists of:

Part I. Family-stock Betterment in Connecticut.
Part II. Eight Handicapped Families in Connecticut in each of which Feeblemindedness is Common.
Part III. The Laws of Connecticut which bear upon the Conservation of the Population of the Commonwealth, in Numbers, Race and Inborn Quality.
Part IV. Portoflio of Fifteen Charts
  Lot (a) Nine charts on Special Race Betterment Problems in Connecticut (Charts 1 to 9)
  Lot (b) Six charts on the Problem of the Feeble-minded in Connecticut (Chartes 10 to 15)
Part V. Three Hundred Forty-six Tables of Cross-classification of Qualities and Conditions of Selected Natural Groups of Handicaped and Inadequate Classes which came within the Purview of the Present Survey of the Human Resources of Connecticut, Prior to Report Number One, Oct. 1, 1938.

NOTE: In this research unit—Part V—for 19 selected population-groups these 346 tables cross-classify qualities by selected pairs among the following nine subjects: (1) Sex, (2) Age, (3) Diagnostic Class, (4) Intelligence Quotient, (5) Recidivism, (6) Race Descent, (7) Nativity, (8) Citizenship, and (9) Kin-in-institutions.

Because the present review concerns race conditions, this review-section will abstract from the Connecticut Survey a few sample findings in reference to race descent, numbers and quality. These findings are accompanied by no recommendations or demand for action of any sort; they are simply factual findings concerning the population of a definite community in reference to race descent on the one hand and to selected inadequacies and handicaps on the other. The questions that follow are meant to be examples of the many hundreds of similar questions which can be answered by the group of 346 tables, which constitute the Connecticut research unit under consideration.

LOT 12, TABLE IV

QUESTION: What portion of all the 11,962 feeble-minded persons within the purview of this Survey belongs to each of the following racial stocks: Italian, American Yankee, Polish, American Negro, French Canadian, Irish, other races?

ANSWER:	Italian	.333
	American Yankee	.211
	Polish	.080
	American Negro	.052
	French Canadian	.039
	Irish	.026
	Other races	.259
		1.000

LOT 6, TABLE IV

QUESTION: How many persons of the 1,420 feeble-minded persons who constitute the entire Waiting List of the Mansfield State Training School and Hospital belong to each of the following racial stocks: American Yankee, Italian, Polish, American Negro, Irish, German?

ANSWER:	American Yankee	316
	Italian	265
	Polish	141
	American Negro	54
	Irish	40
	German	40
		856

LOT 6, TABLE IV

QUESTION: From the total 1,420 persons on the Waiting List of the Mansfield State Training School and Hospital pick out all persons who have any Jewish blood. Give the specific racial stock and the number of each.

ANSWER:	Russian Jew	19
	Russian Jew-Italian	1
	Polish Jew-Russian Jew	1
	Polish Jew-American Yankee	1
	German Jew-Polish Jew-Russian Jew	1
	German Jew-Russian Jew	1
	Russian Jew-Polish	1
		25

LOT 13, TABLE XII

QUESTION: What portion of the 98 inmates of the Wethersfield State Prison for Men, who are not citizens of the United States, are of the following racial stocks: Italian, Polish, Lithuanian, Magyar, Czecho-Slovakian?

ANSWER:	Italian	.520
	Polish	.122
	Lithuanian	.031
	Magyar	.041
	Czecho-Slovakian	.021
		.735

THE CENSUS-REGISTRY AND ITS USES

A similar investigation might choose to cover the whole population regardless of adequacy or talent; another might choose to cross-classify only the expecially strong, talented or gifted, while still another might be based primarily upon selected occupations, and so on. The point is made that the method of study here developed in population-analysis is productive of the kind of facts which the modern census, besides counting the people, should present and analyze, if it is to be of maximum service; it should make a reliable appraisal of the numbers and qualities of the population covered.

If, in the future, a census-registry card—one card to each person—were to be made the basis of the Federal Census (see proposed sample card, The American Year Book, 1937, p. 543), to be checked up by local census and vital statistical registries, then the analysis of the whole population or any definite section of it, in reference to any selected pair or combination of subjects of the census-registry card, in the manner of the questions and answers herewith presented, would be considered feasible.

Each State may set up its own ideals for population numbers, race and quality, but in order to work effectively toward such standards it would be regarded as necessary, besides meeting many other conditions, to have in hand the most accurate census-data in reference not only to number, nativity, race, economic condition, health and literacy, but also in reference to the natural physical, mental and spiritual qualities and trends of the particular population. Accurate records of migrations, of mate-selections and of differential fertilities, and a successful census-registry would evaluate the trends of the particular population in residence, numbers and natural qualities. Such a census-registry would furnish many facts and would undoubtedly mark a substantial advance in the effective use of the census in actual approach toward the population ideals of the State.

COURT RULING ON THE HIGHER EDUCATION OF NEGROES

On Dec. 12, 1938 the Supreme Court of the United States, in a six-to-two decision, handed down by Chief Justice Hughes, held that Lloyd L. Gaines, a 26-year old Negro of St. Louis, Mo., is entitled, under the 14th amendment of the Constitution of the United States, to a legal education in Missouri equivalent in quality to that provided in Missouri by the State of Missouri for its white citizen-students. Gaines, who is a graduate of Lincoln University maintained at Jefferson City by the State of Missouri for the higher education of Negroes, applied for admission to the law school of the University of Missouri and, although apparently otherwise duly qualified, Gaines was denied admission on account of color. The State, which by its Constitution maintains separate schools for its white and colored races, offered to furnish Gaines with tuition for a law course in a nearby state university (Iowa, Illinois, Kansas or Nebraska) where there is no color discrimination in the admission of students.

Gaines rejected the offer and brought suit. He applied for writ of mandamus in the Boone County Circuit Court which would compel the University of Missouri to admit him as a citizen of Missouri and a duly qualified law student. This was refused; he next appealed to the State Supreme Court and, when his petition was there denied, he carried his case to the Supreme Court of the United States. The curators of the University of Missouri held that this was the first time since the opening of the school a century ago that a Negro has attempted to enroll. They claimed that the State made adequate provisions for such of its qualified Negro student-citizens who desired education in law by furnishing tuition in other equally meritorious schools in nearby States which admit Negroes. And, they held, Missouri thus fully meets the provisions of the 14th Amendment which requires equal protection of law to all of its citizens.

The Supreme Court of the United States reversed the decision of the Supreme Court of Missouri, and after commending the State of Missouri for maintaining separate high school facilities for Negro students equal to those furnished to white students, the Chief Justice's ruling said: "The fact remains that instruction for law is not now afforded by the State, either at Lincoln University or elsewhere within the State, and that the law excludes Negroes from the advantages of the law school it has established at the University of Missouri. . . . The question here is not of a duty of the State to supply legal training, or of the quality of the training which it does supply, but of its duty when it provides such training to furnish it to the residents of the State upon the basis of an equality of right. By the operation of the laws of Missouri a privilege has been created for white law students which is denied to Negroes by reason of their race. The white resident is afforded legal education within the State; the Negro resident having the same qualifications is refused it there and must go outside the State to obtain it. That is a denial of the equality of legal right to the enjoyment of privilege which the State has set up, and the provision for the payment of tuition fees in another State does not remove the discrimination."

Associate Justices McReynolds and Butler dissented from the majority opinion. Mr. Justice McReynolds asserted that the Supreme Court of Missouri has "well understood the grave difficulties of the situation and rightly refused to upset the settled legislative policy of the State in directing a mandamus. For a long time Missouri has acted upon the view that the best interest of her people demands separation of whites and Negroes in schools. . . . Under the opinion just announced, I presume she may abandon her law school and thereby disadvantage her white citizens without improving petitioner's opportunities for legal instruction; or she may break down the settled practice concerning separate schools and thereby, as indicated by experience, damnify both races. Whether by some other course it may be possible for her to avoid condemnation is a matter for conjecture. The State has offered to provide the Negro petitioner opportunity for study of the law—if perchance that is the thing really desired—by paying his tuition at some nearby school of good standing. This is far from unmistakable disregard of his rights and in the circumstances is enough to satisfy any reasonable demand for specialized training. It appears that never before has a Negro applied and none has ever asked that Lincoln University provide legal instruction."

The majority ruling is undoubtedly the most far-reaching court decision ever rendered with reference to the higher education of Negroes and their demand for professional state educational facilities under the guarantee of equal protection of the law. It means that many of the several States will have to offer higher professional educational facilities to qualified Negroes which will give them equal opportunity with white students in their respective state-maintained schools. Just what reaction the several Southern States will make, and what specific educational provisions will satisfy this interpretation of the 14th Amendment, remain to be determined. At any rate the decision will cause a far-reaching improvement in higher educational facilities for Negroes in the Southern States, but not necessarily in their policy of racial segregation in education.

SUPPLEMENTARY NOTES ON THE GAINES CASE

In petitioning the Supreme Court of the United States, the Gaines attorneys said that 16 States excluded Negroes from their universities because of race and color; that six of these States provide scholarships for study outside their own States and that ten States make no provisions for graduate or professional training of Negroes. These sixteen States which exclude Negroes from their universities are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

It appears that Gaines was backed in his litigation by The Association for the Advancement of Colored People which fought this particular case through the courts as a test of the rights for parity in educational facilities. The secretary, Walter White, declared that the decision was more far-reaching than Negroes had hoped, and they now promise more test cases in the remaining Southern States with the view to securing court orders to provide the Negroes parity with the whites in facilities for higher education and professional training. There remains also as a revived issue the matter of equality in elementary education, such as the qualifications of teachers and grade of buildings and equipment. It is held that the Southern States expend only one-fourth as much per pupil on the education of their Negro children as for the training of their white children of the same ages.

As the year ends young Gaines, although he won his case, is not now residing in the State of Missouri and has not indicated whether he will accept the facilities for his law education ordered by the Supreme Court of the United States.

CONSUMER FAMILY INCOMES IN THE UNITED STATES

The report of the National Resources Committee on Consumers Incomes in the United States in 1935–36 was issued in 1938. Geographically the studv was based on the following regions: New England, North Central, South, Mountain and Plains, and Pacific. The lowest average income per family was shown to be made by the Southern States. The mean income for all Southern families was $1,326 per year and for all non-relief families (excluding all families receiving any direct or work-relief at any time during the year, however little) $1,431.

Region and Type of Community	Average (Mean) Income per Family	
	White	Negro
Southern rural communities	$1,535	$566
Southern cities of 2,500 population and over	2,019	635
North Central cities of 100,000 population and over	2,616	1,227

The samples of Southern family incomes, when analyzed on the basis of color, made the foregoing findings on the average income of Negro and white non-relief families in Southern rural communities and in North Central cities.

In the Southern communities, both urban and rural, the mean income of non-relief white families in 1935–36 was practically three times that of non-relief Negro families. The difference seems to be not geographic nor occupational but primarily racial for the disparity shows also in North Central cities of 100,000 and over, where the mean income for Negro families is less than half of that for white families.

RACE CONDITIONS IN THE SOUTH

In *The Commentator* for December, 1938 United States Senator Joseph W. Bailey of North Carolina, in "The South Talks Back," makes a reply to the report of the National Resources Committee on average income per family in the several geographic regions of the country. The Senator defends the low position of the South in this respect and, in the course of his statement, he covers also the racial problem of the South. He says: "We have nearly caught up. And this notwithstanding a great population of Negroes 95 per cent unskilled, notoriously low income-producers; notwithstanding the fact that our white population is preponderantly agricultural, and industrial income always exceeds agricultural income.

"The South has a distinct advantage which it hopes to preserve. Our white population is native-born for from six to ten generations. It is English, Scotch, and Irish by about 95 per cent, if we omit the Spanish element along the Gulf of Mexico. Thus, unlike the Western States, we face no threat from radicals. Again, unlike the northern and eastern commonwealths, we are free from difficulties arising from congested and unabsorbed populations, from the unrest fomented by European peoples and European ideas.

"Frankly, we like this. We have not been afflicted with the proletarian migration from Europe. Our ideas and ideals are Saxon—the same as those of England and the founders of this Republic. We can solve our labor question as the English solve theirs. We are solving it. We do not want the sort of population which inhabits New York, Pennsylvania, Illinois and Massachusetts—the melting-potters from Europe that seem to have no affinity with true American, republican traditions.

"Our people have the Saxon capacity for order. They know how to assert their rights within the forms of law. We believe in the Constitution and the Bill of Rights. We prize the English liberties, the common law, and the Bible. . . ."

ANTI-LYNCHING PROGRESS

Among the major subjects for legislation on the list of the third session of the 75th Congress was a proposed anti-lynching bill to place civil responsibility for lynching on local police officers and to impose fines on the counties where lynchings occur. The bill was shelved after three weeks of filibuster in the Senate. According to general understanding as the year ends (December, 1938) Senator Frederick Van Nuys, Democrat of Indiana, with Senator Robert F. Wagner, Democrat of New York, as co-authors of the defeated bill, will introduce practically the same bill at the opening of the 76th Congress in January, 1939.

Southern Senators and Representatives contend that attempted Federal prohibition of and punishment for lynching is an invasion of the constitutional rights of self-government guaranteed to the individual States by the Tenth Amendment to the Constitution of the United States, which states that "The powers not delegated to the United States by the Constitution nor prohibited by it to the States, are reserved to the States respectively, or to the people." The Southerners claim that it is a matter of self-government how the Southern communities punish criminal offenders, and particularly that they need no outside aid in handling Negro offences against white women. They claim also that the decreasing number of lynchings in the South has made Federal interference not only unnecessary but useless.

One Negro reviewer claims that the "rise in the general education of the South is building a sentiment decrying the taking of any man's life without due process of law—and so lynching has steadily declined. In the first half of this year not a single lynching was recorded in the United States, and 1938 as a whole bids fair to set an all-time low for mob violence."

BAN ON FLAT-FOOTED POLICE

On Dec. 20 the Civil Service Commission of New Jersey upheld the Newark police department in rejecting three Negro applicants for candidacy for appointment as police because of flat feet. The Negroes contended that flat-footedness is a common racial trait of Negroes and that in Negroes it does not, in itself, connote any physical defect which would impair police service, and in support they cite noted Negro athletes who were flat-footed. But the Commission said: "While some jurisdictions indicate acceptance of applicants with first degree flat-footedness, and while it would appear there is some question as to the line to be drawn with respect to congenital flat-footedness, it is clear that municipalities maintaining the higher standards for appointment in the public service adhere generally to the policy followed in New Jersey."

A NEGRO EVALUATION OF THE NEGROES' STATUS

Ollie Stewart, a Southern Negro, in *The Commentator* for December, 1938, in summing up the situation, says: "Lowly as the lot of the Negro in the Southland may be today, it is worlds better than it has ever been since Negroes were brought to this country. . . . Self-preservation has made it imperative that the white South improve health conditions all the way from the cabin to the big house. Tuberculosis refused to be legislated against and kept across the railroad tracks by city ordinances. Negroes are actually increasing in number—in the South. There were 1,010,605 colored births as against 724,490 deaths reported in the United States during the years 1933–36, the newest United States census figures show. In all the States of the North, there were in 1936 3,105 more *deaths* than births. But—in all the States of the South there were, the same year, 61,455 more births than deaths. . . . If the Negro has no future there, if he can't develop as the South develops, he has no future anywhere, and can't develop anywhere."

ANTI-SEMITISM

Dr. Alvin Johnson, chairman of the University in Exile, in *The Atlantic Monthly* for December, 1938, reviews the problem of Jew-Gentile. "Need I state that in recent years there has been a marked increase in anti-Semitism in America? Everyone knows that this is true. . . . How are we to account for this? And, what is more important, what are we Christians and Jews going to do about it? . . . It is certainly not a matter of religion. . . . Neither is it a matter of race. There are those who argue gravely that the Jews are Orientals, that it is forever true of East and West that never the twain shall meet. Anyone who has eyes and good sense besides can see that there is no unity of racial type among the Jews. . . . Three-fourths of the Jews in the United States are either immigrants who fled from the pogroms of Tsarist Russia or the children of such immigrants brought up in solid immigrant communities. Like all immigrant stocks, these Jews are imperfectly assimilated after so brief a lapse of time as is represented by two generations. They are inadequately assimilated in language, gesture, and manners, and occasionally in law and in the customs that are more binding than law. Exactly the same charge of persistent alienism was once brought against the slightly earlier Italian groups, the German and Scandinavian immigrants of the seventies and eighties, the Irish of the forties and fifties, the colonial immigration of Scotch, Irish, Germans, and French. Always America has made a wry face over the ingestion of a new alien group. . . . It is a problem for Jew and Gentile alike. Were anti-Semitism to grow to the proportions of a movement for the banishment of the Jews, the first sufferers would be the Jews themselves. But we should all suffer the loss of our liberties that would inevitably follow such an unloosing of ill will."

RACE ADMIXTURE IN NEIGHBORING NATIONS

The United States and Canada are immigrant-receiving countries of like nature and they have many race-admixture problems in common. Under the title "Some Cases of Race Admixture Observed in Canada," Professor H. B. Fantham and Dr. Annie Porter of the Department of Zoology, McGill University, Montreal, have printed in the *Eugenical News* for September-October, 1938 the results of their observations on race admixture occurring among recent immigrant elements in Canada. The study covers 50 families, all of which live in a "small section of a large city." Many of the immigrants had come to Canada "to work on the land or in the lumber industry or on railroad work." After a few years they drifted to the city. As for the farmers among them "a sad feature of this drift from the land to the city is the deterioration in moral fibre and standards that can be noted."

The authors discuss race admixture among French, Italian, German, Scandinavian, Ukranian and British families as well as certain admixtures of Chinese, Indian and Negro blood. Their studies concern the results of admixture upon physical traits and physique, mentality and personality, language, food, sanitation and morals in reference to the qualities of the contributing races and the nature of the resultant admixtures. They find that the newcomers, instead of assimilating with the Canadian national life, "would seem, to some extent, to be producing a perpetuation of the social habits of the home lands and not the wholehearted assimilation of Canadian life and outlook, so desirable for a nation." In reference to the language of race-mixed families: "The older members also preserve the speech of their homelands largely, but where race admixture has occurred, they have tended to use English as the common means of intercommunication. . . . Some of the younger members hardly know the language of their parents at all."

The authors conclude that "while the families are poor, independent and hard-working, neither they nor many of the ancestral stocks are assimilating with the general population as they ought to do, if a Canadian nationality is to be established. . . . It would also seem advisable if there were more encouragement of immigration into Canada of British and Scandinavian settlers, as there would be greater chances of assimilation into a loyal cooperative community."

POPULATION STATISTICS

By Leon E. Truesdell

Chief Statistician for Population, U. S. Bureau of the Census

POPULATION GROWTH

When the first census of the United States was taken in 1790, the population was not quite 4,000,000. Each subsequent decennial census up to 1860 showed on increase of about one-third over the preceding census; from 1860 to 1910 the decennial increase was around 20 or 25 per cent; and for the last two decades the increase has been only 15 or 16 per cent. The population in 1930 was, nevertheless, 123,000,000, or 31 times the population in 1790. The data for the 15 censuses are given in the following table:

POPULATION OF THE UNITED STATES

1790 to 1930

Census Year	Population	Increase over Preceding Censuses	
		Number	Per Cent
1930	122,775,046	17,064,426	16.1
1920	105,710,620	13,738,354	14.9
1910	91,972,266	15,977,691	21.0
1900	75,994,575	13,046,861	20.7
1890	62,947,714	12,791,931	25.5
1880	50,155,783	10,337,334	26.0
1870	*39,818,449	8,375,128	26.6
1860	31,443,321	8,251,445	35.6
1850	23,191,876	6,122,423	35.9
1840	17,069,453	4,203,433	32.7
1830	12,866,020	3,227,567	33.5
1820	9,638,453	2,398,572	33.1
1810	7,239,881	1,931,398	36.4
1800	5,308,483	1,379,269	35.1
1790	3,929,214	....	....

* Revised figure.

The increase since 1930 has been at a much lower rate than during the decade preceding the last census, partly because of the very great reduction in immigration and partly because of continued decline in the birth rate, the average annual increase since 1930 being little more than one-half the average for the decade preceding the last census.

To meet the demand for current figures for use in computing death rates, per capita costs, etc., the population of the United States has been estimated for July 1 of each year since 1930 on the basis of the annual data for births and deaths (with due allowance for under-registration) and net immigration figures. The estimate for July 1, 1938 is 130,215,000, this representing an increase of 958.000 or 0.74 per cent over the 1937 estimate of 129,257,000, and an increase of 6.06 over the 1930 census figure. The estimates for each year since 1930 are on page 548 in the table presenting statistics of marriages and divorces.

On the basis of probable trends in the birth rate and the death rate, and assuming that there will be no considerable immigration from foreign countries, the population of the United States has been estimated or forecast for several decades into the future, as follows: for 1940, 132,000,000; for 1950, 138,000,000; for 1960, 142,000,000. Shortly after 1970, under these assumed conditions, the population will reach its maximum and a slow decline will begin.

The most significant data on births and deaths which need to be considered in any study of probable future trends in population are presented in the following table, which gives for each year from 1920 to 1937 the number of births and deaths reported in the registration area (which since 1933 has included all States), the annual rates per 1,000 of the population, and a three-year moving average rate.

BIRTHS AND DEATHS IN THE REGISTRATION AREA: 1920 TO 1937

(The birth registration area included 59.8 per cent of the total population of the country in 1920 and the death registration area 82.2 per cent; in 1933 both areas had been extended to include the entire country.)

Year	Births Registered			Deaths Registered			United States Totals—Partly Estimated for Years Prior to 1933 (Thousands)		
	Number	Rate per 1,000 Population		Number	Rate per 1,000 Population				
		Annual	3-year Moving Average		Annual	3-year Moving Average	Births	Deaths	Excess of Births over Deaths
1937	2,203,337	17.0	......	1,450,427	11.2	......	2,203	1,450	753
1936	2,144,790	16.7	16.9	1,479,228	11.5	11.2	2,145	1,479	666
1935	2,155,105	16.9	16.9	1,392,752	10.9	11.1	2,155	1,393	762
1934	2,167,636	17.1	16.9	1,396,903	11.0	10.9	2,168	1,397	771
1933	2,081,232	16.6	17.1	1,342,106	10.7	10.9	2,081	1,342	739
1932	2,074,042	17.4	17.3	1,308,529	10.9	10.9	2,178	1,360	818
1931	2,112,760	18.0	18.1	1,322,589	11.1	11.1	2,232	1,374	858
1930	2,203,958	18.9	18.6	1,343,358	11.3	11.4	2,328	1,396	932
1929	2,169,920	18.9	19.2	1,386,363	11.9	11.8	2,291	1,448	843
1928	2,233,149	19.7	19.7	1,378,675	12.1	11.8	2,368	1,446	922
1927	2,137,836	20.6	20.3	1,236,949	11.4	11.9	2,440	1,352	1,088
1926	1,856,068	20.6	20.9	1,285,927	12.2	11.8	2,412	1,428	984
1925	1,878,880	21.4	21.6	1,219,019	11.8	12.0	2,467	1,360	1,107
1924	1,930,614	22.6	22.2	1,173,990	11.8	12.0	2,534	1,328	1,206
1923	1,792,646	22.4	22.5	1,193,017	12.3	12.0	2,478	1,360	1,118
1922	1,774,911	22.5	23.1	1,101,863	11.8	11.9	2,456	1,290	1,166
1921	1,714,261	24.3	23.5	1,032,009	11.6	12.2	2,622	1,253	1,369
1920	1,508,874	23.7	......	1,142,558	13.1	......	2,522	1,389	1,133

CUMULATIVE AGE GROUPS: 1935 AND 1930

Age (years)	Number, 1935	Per Cent	
		1935	1930
All ages...	127,341,300	100.0	100.0
Under 10......	22,339,700	17.5	19.6
Under 15......	34,826,300	27.3	29.4
Under 20......	46,696,300	36.7	38.8
Under 25......	58,078,000	45.6	47.7
25 and over....	69,263,300	54.4	52.3
30 and over....	58,631,500	46.0	44.3
35 and over....	49,053,100	38.5	36.9
40 and over....	40,218,900	31.6	29.4
45 and over....	31,349,200	24.6	22.8
50 and over....	23,726,900	18.6	17.1
55 and over....	17,109,500	13.4	12.4
60 and over....	11,615,900	9.1	8.5
65 and over....	7,498,000	5.9	5.4
70 and over....	4,349,200	3.4	3.1
75 and over....	2,217,800	1.7	1.6

AGE DISTRIBUTION

Among the important changes in the characteristics of the population which are certain to come with the decline in the rate of population growth is a marked increase in the number of persons of advanced age and an actual as well as a relative decrease in the numbers of young persons. There is considerable interest at the present time in what might be termed cumulative age groups, that is, the numbers of persons either under or over a certain age. Such figures are given in the adjoining table, the 1930 percentages being based on the census, and the 1935 figures representing estimates based on survival rates applied to the census figures for ages five years earlier; and it may be noted that even during so short a period as the five years between 1930 and 1935 there have been material changes in the percentages. The percentage of persons 65 years old and over, for example, increased from 5.4 in 1930 to 5.9 in 1935, while the percentage under 10 decreased during the same period from 19.6 to 17.5.

MOTHER TONGUE OF POPULATION FROM SELECTED EUROPEAN COUNTRIES

The classification by mother tongue, that is, of language usually spoken in the home before migration to the United States, is one of the most significant of the census classifications of our foreign-born population. While this classification of the foreign born who have come to the United States from the various countries does not always indicate the distribution of the various language groups in the country itself, the mother tongue figures for our foreign-born population from certain Central European countries are of considerable significance. Such figures are presented in the table below.

It may be noted that in the foreign born in the United States from Poland, only 72.4 per cent report Polish as mother tongue; of those from Lithuania, only 80.7 per cent report Lithuanian; and of those from Russia, only 22.8 per cent report Russian; Yiddish is an important element in the language distribution of our immigrants from all of these countries, as well as from several others. Of those persons in the United States who were born in Czecho-Slovakia, 44.6 per cent returned Slovak as mother tongue and 38.4 per cent, Czech.

MOTHER TONGUE OF FOREIGN-BORN POPULATION IN U.S. FROM SELECTED COUNTRIES: 1930

Country of Birth and Mother Tongue	Number	Per Cent
Poland	1,268,583	100.0
Polish	918,070	72.4
Yiddish	243,825	19.2
Ukrainian	38,582	3.0
German	31,844	2.5
Russian	26,797	2.1
Czecho-Slovakia	491,638	100.0
Slovak	219,347	44.6
Czech	188,960	38.4
German	30,900	6.3
Magyar	19,863	4.0
Austria	370,914	100.0
German	191,715	51.7
Yiddish	96,052	25.9
Magyar	12,390	3.3
Polish	9,827	2.6
Hungary	274,450	100.0
Magyar	202,875	73.9
German	48,198	17.6
Yiddish	16,255	5.9
Yugoslavia	211,416	100.0
Croatian	72,138	34.1
Slovenian	66,793	31.6
Serbian	27,663	13.1
German	23,403	11.1
Slovak	8,309	3.9
Magyar	4,506	2.1
Russia	1,153,624	100.0
Yiddish	743,307	64.4
Russian	262,781	22.8
German	103.371	9.0
Latvia	20,673	100.0
Yiddish	8,803	42.6
Lettish	5,977	28.9
German	2,774	13.4
Russian	1,827	8.8
Lithuanian	464	2.2
Estonia	3,550	100.0
Estonian	2,422	68.2
German	256	7.2
Russian	243	6.8
Yiddish	243	6.8
Lithuania	193,606	100.0
Lithuanian	156,152	80.7
Yiddish	25,886	13.4
Polish	3,824	2.0
Rumania	146,393	100.0
Rumanian	53,452	36.5
Yiddish	49,508	33.8
German	28,640	19.6
Magyar	8,830	6.0
Bulgaria	9.399	100.0
Bulgarian	8,112	86.3
Greek	288	3.1
German	218	2.3
Turkey in Europe	2,257	100.0
Greek	744	33.0
Armenian	576	25.5
Spanish	309	13.7
Turkish	283	12.5

CITIZENSHIP OF THE FOREIGN BORN

The whole number of foreign-born white persons in the United States in 1930 was 13,366,407, of whom 7,859,193 or 58.8 per cent were naturalized and 1,246,521 or 9.3 per cent had taken out their first papers. The percentage in 1920 was only 48.7. The 1930 figure, therefore, represents a material increase during the decade; and it seems likely that at the present time (1938) the percentage naturalized may be considerably higher than in 1930. The naturalization figures for the foreign-born white population by country of birth are presented in the following table.

CITIZENSHIP OF FOREIGN BORN WHITES BY COUNTRY OF BIRTH: 1930

Country of Birth	Total	Naturalized	
		Number	Per Cent
All countries	13,366,407	7,859,193	58.8
England	808,672	541,880	67.0
Scotland	354,323	189,538	53.5
Wales	60,205	44,403	73.8
Northern Ireland	178,832	121,748	68.1
Irish Free State	744,810	492,191	66.1
Norway	347,852	246,735	70.9
Sweden	595,250	432,411	72.6
Denmark	179,474	134,513	74.9
Netherlands	133,133	88,725	66.6
Belgium	64,194	41,881	65.2
Switzerland	113,010	76,142	67.4
France	135,232	85,283	63.1
Germany	1,608,814	1,133,739	70.5
Poland	1,268,583	640,490	50.5
Czecho-Slovakia	491,638	301,401	61.3
Austria	370,914	233,582	63.0
Hungary	274,450	152,759	55.7
Yugoslavia	211,416	97,880	46.3
Russia	1,153,624	717,966	62.2
Lithuania	193,606	91,875	47.5
Finland	142,478	72,709	51.0
Rumania	146,393	88,277	60.3
Greece	174,526	78,059	44.7
Italy	1,790,424	894,647	50.0
Spain	58,302	11,045	18.9
Portugal	69,974	13,062	18.7
Syria	57,227	29,133	50.9
Canada-French	370,852	173,938	46.9
Canada-Other	907,569	484,619	53.4
All other	360,630	148,562	41.2

GAINFUL WORKERS BY AGE

Persons 10 years old and over who usually work at a gainful occupation are classified in the census as gainful workers. This classification includes and has included practically the whole of the male population in what might be termed the middle ages of the working period (97.5 per cent of all males 25 to 44 years of age in 1930); but for the younger and older ages and for the female population there are significant variations. For example, the percentage of gainful workers in the male population 10 to 15 years of age decreased from 25.9 in 1890 to 6.4 in 1930; and the percentage of all females 10 years old and over gainfully employed increased from 17.4 in 1890 to 22 in 1930. The percentage gainfully employed for males and females in four age groups is presented for the censuses from 1890 to 1930 in the following table:

PER CENT OF POPULATION 10 YEARS OLD AND OVER GAINFULLY EMPLOYED: 1890 TO 1930

Census Year	Males 10 Years Old and Over, by Age					Females 10 Years Old and Over, by Age				
	Total	10 to 15 Years	16 to 44 Years	45 to 64 Years	65 and Over	Total	10 to 15 Years	16 to 44 Years	45 to 64 Years	65 and Over
1930	76.2	6.4	89.2	94.1	58.3	22.0	2.9	29.7	18.7	8.0
1920	79.9	16.8	93.1	93.9	60.2	21.4	5.8	28.2	17.1	8.0
1910	80.8	21.7	93.3	92.1	63.7	21.5	8.1	27.8	16.2	8.9
1900	80.0	26.1	91.8	93.4	68.4	18.8	10.2	23.5	14.1	9.1
1890	79.3	25.9	90.6	95.2	73.8	17.4	10.0	21.7	12.6	8.3

UNEMPLOYMENT SURVEY

There was conducted in November, 1937 a voluntary registration of unemployed persons throughout the country, supplemented by a complete canvass of a sample area containing about 2 per cent of the population of the United States. The number unemployed actually registered, including emergency workers, was 7,845,016; and on the basis of the percentage who were found to have registered in the sample area covered by the enumeration, it was estimated that the whole number of unemployed was 10,983,000. From the enumeration of the sample area there were obtained a number of detailed classifications which have a general significance of fully as much importance, perhaps, as the count of unemployment registrations or the estimate based thereon. One of these classifications, which is presented in the following table, divides the whole population between the ages of 15 and 74 into seven classes based on their relation to gainful activity. The whole number of persons within the age limits was first separated into two groups: (a) those employed or available for employment and (b) those not available for employment. It was found that those either employed or available for employment included 85.6 per cent of the male population 15 to 74 years of age and 31.3 per cent of the female population, a very large percentage of the females being, of course, occupied as housewives. The persons employed or available for employment were then further subdivided as fully employed, partly employed, unemployed, etc., as indicated in the accompanying table.

ESTIMATED NUMBER OF PERSONS 15 TO 74 YEARS OF AGE IN THE UNITED STATES

(November, 1937, by sex and employment status)

Class	Male			Female		
	Estimated Total Number	Per Cent of Population	Per Cent of Workers	Estimated Total Number	Per Cent of Population	Per Cent of Workers
Total population, 15 to 74 years of age	46,704,000	100.0	....	46,359,000	100.0	....
Persons employed or available for employment ("workers")	39,978,000	85.6	100.0	14,496,000	31.3	100.0
Totally unemployed	5,761,000	12.3	14.4	3,167,000	6.8	21.8
Emergency workers	1,657,000	3.5	4.1	398,000	0.9	2.7
Partly unemployed	4,058,000	8.7	10.2	1,492,000	3.2	10.3
Part-time workers (not wanting more work)	688,000	1.5	1.7	502,000	1.1	3.5
Fully employed	27,399,000	58.7	68.5	8,680,000	18.7	59.9
Ill or voluntarily idle	415,000	0.9	1.0	257,000	0.6	1.8
Persons not available for employment	6,726,000	14.4	....	31,863,000	68.7	....

The classification according to employment status shows very considerable variations for persons of different ages, as shown by the percentage classifications presented for 5-year age periods in the next table. It may be noted, for example, that full-time employment was higher for males between 30 and 39 years of age than for those either younger or older, and that total unemployment among males was lowest between ages 35 and 44 (except for age 70 to 74, where the figures are not significant because so large a fraction of those not at work were returned as not available for employment). Among the females it may be noted that the percentage available for employment was highest (53.9) for ages 20 to 24, falling rather rapidly with increasing age and increasing percentage of the married.

PER CENT DISTRIBUTION BY EMPLOYMENT STATUS OF PERSONS 15 TO 74 YEARS OF AGE IN THE SAMPLE AREA

(November, 1937)

Sex and Age	Total Population	Employed or Available for Employment							Persons Not Available for Employment
		Total	Totally Unemployed	Emergency Workers	Partly Unemployed	Part-time Workers	Fully Employed	Ill or Voluntarily Idle	
Male Total (Ages 15–74)	100.0	85.8	12.3	3.4	8.4	1.7	59.2	0.9	14.2
15–19 years.....	100.0	44.7	15.3	2.6	5.4	1.9	18.8	0.6	55.3
20–24 years.....	100.0	90.2	18.8	3.1	11.0	1.6	55.0	0.7	9.8
25–29 years.....	100.0	96.6	12.6	3.0	10.1	1.3	69.0	0.6	3.4
30–34 years.....	100.0	97.4	10.1	3.2	9.3	1.2	73.0	0.6	2.6
35–39 years.....	100.0	97.1	9.7	3.5	9.0	1.2	73.1	0.7	2.9
40–44 years.....	100.0	96.3	9.7	3.8	8.6	1.3	72.1	0.8	3.7
45–49 years.....	100.0	95.7	10.5	4.2	9.2	1.4	69.5	0.9	4.3
50–54 years.....	100.0	94.4	11.2	4.3	8.5	1.3	68.0	1.1	5.6
55–59 years.....	100.0	90.9	12.5	4.6	8.0	1.5	62.9	1.3	9.1
60–64 years.....	100.0	83.7	12.2	4.2	7.0	1.8	56.8	1.7	16.3
65–69 years.....	100.0	66.7	10.8	2.1	5.4	2.0	44.3	2.0	33.3
70–74 years.....	100.0	44.1	6.7	0.7	2.6	2.0	30.1	1.9	55.9
Female Total (Ages 15–74)	100.0	31.7	7.0	0.8	3.2	1.2	18.9	0.6	68.3
15–19 years.....	100.0	32.4	12.8	1.0	3.6	1.1	13.5	0.4	67.6
20–24 years.....	100.0	53.9	11.9	1.2	5.4	1.3	33.4	0.7	46.1
25–29 years.....	100.0	41.9	7.6	0.7	3.9	1.2	27.8	0.7	58.1
30–34 years.....	100.0	34.3	6.2	0.7	3.3	1.2	22.3	0.6	65.7
35–39 years.....	100.0	31.1	6.1	0.8	3.3	1.1	19.1	0.5	68.9
40–44 years.....	100.0	27.9	5.6	0.9	3.0	1.1	16.9	0.5	72.1
45–49 years.....	100.0	24.9	5.0	0.8	2.8	1.1	14.6	0.5	75.1
50–54 years.....	100.0	22.4	4.4	0.8	2.5	1.0	13.2	0.5	77.6
55–59 years.....	100.0	18.7	4.0	0.6	1.9	0.9	10.7	0.5	81.3
60–64 years.....	100.0	15.3	2.9	0.6	1.4	0.9	9.1	0.4	84.7
65–69 years.....	100.0	10.2	2.0	0.3	1.0	0.7	5.8	0.5	89.8
70–74 years.....	100.0	5.5	0.7	0.1	0.5	0.5	3.2	0.4	94.5

MARRIAGES AND DIVORCES: 1920 TO 1937

Year	Marriages		Divorces		Estimated Population (July 1)
	Total Number	Per 1,000 of Population	Total Number	Per 1,000 of Population	
1937	1,426,000	11.03	250,000	1.93	129,257,000
1936	1,369,000	10.66	236,000	1.84	128,429,000
1935	1,327,000	10.41	218,000	1.71	127,521,000
1934	1,302,000	10.28	204,000	1.61	126,626,000
1933	1,098,000	8.73	165,000	1.31	125,770,000
1932	981,903	7.86	160,338	1.28	124,974,000
1931	1,060,554	8.55	183,664	1.48	124,113,000
1930	1,126,858	9.15	191,591	1.56	123,091,000
1929	1,232,559	10.14	201,468	1.66	121,526,000
1928	1,182,497	9.87	195,939	1.63	119,862,000
1927	1,201,053	10.16	192,037	1.62	118,197,000
1926	1,202,574	10.32	180,853	1.55	116,532,000
1925	1,188,334	10.35	175,449	1.53	114,867,000
1924	1,184,574	10.46	170,952	1.51	113,202,000
1923	1,229,784	11.03	165,096	1.48	111,537,000
1922	1,134,151	10.32	148,815	1.35	109,873,000
1921	1,163,863	10.76	159,580	1.47	108,208,000
1920	1,274,476	11.96	170,505	1.60	106,543,000

MARRIAGE AND DIVORCE

Marriage and divorce figures were published annually by the Bureau of the Census from 1922 to 1932 inclusive. For 1920 and 1921 and for the years subsequent to 1932, estimates have been made on the basis of available state compilations. The figures are summarized in the foregoing table.

STATISTICAL SUMMARIES

Population data under a number of other important classifications such as color and nativity, country of origin, size of family, and value or rental of home are contained in the articles on population in THE AMERICAN YEAR BOOK, 1933 (pp. 577–584); 1934 (pp. 548–554); 1935 (pp. 532–538); 1936 (pp. 540–545); and 1937 (pp. 545–550). The most compact official publication providing a fairly complete summary of the population statistics is the *Abstract of the Fifteenth Census.* A briefer set of summary tables is contained in the *Statistical Abstract* which may be available in some libraries not having the *Census Abstract.*

The results of the 1937 Unemployment Survey are published in four volumes, the first three presenting the results of the registration for geographic divisions, States, counties, and cities, while Volume IV, designated "Census of Unemployment: 1937—Final Report, Vol. IV—The Enumerative Check Census," gives the results of the enumeration in the sample area.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN COLONIZATION SOCIETY, 516 Colorado Bldg., Washington, D.C.

AMERICAN ETHNOLOGICAL SOCIETY, American Museum of Natural History, New York City.

AMERICAN JEWISH COMMITTEE, 461 Fourth Ave., New York City.

ANCIENT ORDER OF HIBERNIANS, 1648 Westmont Ave., Pittsburgh, Pa.

CENTRO VASCO AMERICANO SOCIETY, 48½ Cherry St., New York City.

ENGLISH-SPEAKING UNION OF THE U.S., 30 Rockefeller Plaza, New York City.

FEDERATION DE L'ALLIANCE FRANÇAISE, 22 East 60th St., New York City.

FEDERATION OF POLISH JEWS IN AMERICA, 225 W. 34th Street, New York City.

HEBREW SHELTERING AND IMMIGRANT AID SOCIETY OF AMERICA, 425 Lafayette St., New York City.

HOLLAND SOCIETY OF N.Y., 90 West Street, New York City.

HUGUENOT SOCIETY OF AMERICA, 2 W. 45th St., New York City.

HUNGARIAN SOCIETY OF N.Y., 270 West 89th St., New York City.

INDIAN RIGHTS ASSN., 301 S. Seventeenth St., Philadelphia, Pa.

JAPANESE ASSN., INC., 1819 Broadway, New York City.

JEWISH NATIONAL WORKERS' ALLIANCE OF AMERICA, 251 Fourth Ave., New York City.

JEWISH WELFARE BOARD, 220 Fifth Ave., New York City.

LAKE MOHONK INDIAN CONFERENCE, Lake Mohonk, N.Y.

LITHUANIAN ALLIANCE OF AMERICA, 307 W. 30th St., New York City.

NATIONAL ASSN. FOR ADVANCEMENT OF COLORED PEOPLE, 69 Fifth Ave., New York City.

NATIONAL COUNCIL OF JEWISH WOMEN, 1819 Broadway, New York City.

NATURALIZATION AID LEAGUE, 175 E. Broadway, New York City.

NETHERLAND AMERICAN FOUNDATION, 630 Fifth Ave., New York City.

ORDINE FIELI D'ITALIA IN AMERICA, 225 Lafayette St., New York City.

POLISH NATIONAL ALLIANCE, 142 Grand Ave., Brooklyn, N. Y. City.

RUSSIAN NATIONAL SOCIETY, 5 Columbus Circle, New York City.

SCRIPPS FOUNDATION FOR RESEARCH IN POPULATION PROBLEMS, Miami University, Oxford, O.

SONS OF ITALY, 377 Broadway, New York City.

UNITED ROUMANIAN JEWS OF AMERICA, INC., 799 Broadway, New York City.

YOUNG JUDEA, INC., 111 Fifth Ave., New York City.

YOUNG MEN'S HEBREW ASSN., Lexington Ave. and 92nd St., New York City.

YOUNG WOMEN'S HEBREW ASSOCIATION, 31 West 110th Street, New York City.

ZIONIST ORGANIZATION OF AMERICA, 111 Fifth Ave., New York City.

DIVISION XV
SOCIAL PROBLEMS AND CONDITIONS

PUBLIC SOCIAL WORK

BY WILLIAM M. SCHUYLER

EDITOR, *The American Year Book*

SCOPE OF GOVERNMENT OBJECTIVES

This review is based on the annual report of the Social Security Board of the Federal Government for the fiscal year 1938. The Board was established in 1935 to administer the provisions of the Social Security Act. Doubts as to the constitutionality of some of the provisions of the act were removed by decisions of the United States Supreme Court in May, 1937. In the fiscal year ended June 30, 1938, important operations under the unemployment and old age insurance programs were first tested extensively, and the year "afforded a cogent demonstration of the importance of the social security program to the millions of families who participated in it directly and to Federal, state and local governments." The needs of the aged, children and blind were intensified by the recession that took place in the second half of 1937, and the necessity for assistance from the States was acute. As a result of Federal grants to the States for this purpose, "the States were in a better position than could otherwise have been the case to meet both the continuing responsibility for these helpless special groups of the needy and the rising demand for general relief occasioned by the recession."

The annual report of the Board, issued in January, 1939, thus discusses the scope and purpose of the Social Security Act: "The defenses against unemployment were strengthened not only by benefit payments but also by extension of state employment services for these and other unemployed persons. Under the Social Security Act, the Federal Government makes grants to the States for unemployment compensation administration. In the fiscal year 1937–38 these grants included amounts for expansion of employment service in 27 States and in the District of Columbia, where unemployment benefits were payable or were soon to become payable, to enable these jurisdictions to meet the added responsibilities laid upon them by full operation of their unemployment compensation systems. Unquestionably, Federal funds authorized by the act for services for health and welfare have also been of special importance during the past year in States which are administering programs with the aid of grants certified by the Children's Bureau, the United States Public Health Service, and the Federal Office of Education."

UNEMPLOYMENT COMPENSATION

"By the close of the fiscal year 1936–37 a Nation-wide legislative foundation for unemployment insurance had been laid by the 48 States, Alaska, Hawaii, and the District of Columbia, but only one State, Wisconsin, was paying benefits. A year later, 24 States and the District of Columbia, having fulfilled the requirements of their own legislation and the Federal act, were making unemployment benefit payments; by June 1938, checks aggregating $10 million were going out each week to about a million totally or partially unemployed workers. Three more States had their unemployment insurance systems geared to go into action in July 1938, and by July 1939 unemployment benefits will be payable throughout the Nation.

"Under the unemployment compensation laws of 21 States and the District of Columbia, claims for benefits were first accepted in January 1938. During the preceding months unemployment had been spreading throughout the country. As a consequence these State unemployment compensation agencies were placed under a severe strain. They were faced not only with the difficulty of inaugurating operations in which they had had no previous experience but also with an unexpectedly heavy initial load of claims for benefits resulting from the high level of unemployment. While the Board has provided all assistance within its power, the States carry the basic responsibility and theirs is the credit for performance. The State agencies would be the first to declare that there have been delays and that some procedures have proved cumbersome and in need of simplification. Nevertheless, the general record of performance in this difficult situation is one of which the Congress and the American people may well be proud.

"As of June 30, 1938, nearly 17.8 million checks aggregating more than $179.5 million had been issued to workers totally or partially unemployed in the 25 jurisdictions in which benefits were payable. On that same date, the accounts of state agencies in the unemployment trust fund in the Treasury aggregated nearly $881.9 million. This balance represented contributions deposited by all state agencies plus interest credited by the Treasury to all State accounts and minus amounts withdrawn for benefit payments by the group of States in which benefits were payable within the year. The amount of the balance in the unemployment trust fund on June 30, 1938, was influenced by the fact that States must defer payment of benefits until contributions have been payable for two years' employment if they are to qualify for Federal administrative grants and if employer contributions under the State law are to be offset against the tax payable under title IX of the Social Security Act.

"For the fiscal year 1937–38, a total of nearly $42.3 million was certified by the Social Security Board for grants to the States for administration of their unemployment compensation laws, including $14.4 million for expansion of employment services in the 27 States and in the District of Columbia where benefits were payable before the end of the year or shortly thereafter.

"The enactment of the Railroad Unemployment Insurance Act by the last Congress has important implications for all States whose laws now cover railroad workers. That act establishes a Federal system for employees of railroads and certain of their subsidiaries and affiliates. This system will become operative as of July 1, 1939, and will be administered by the Railroad Retirement Board. The Social Security Board is providing all possible aid to the States and to the Bureau of Unemployment Insurance of the Railroad Retirement Board in order that the necessary amendments to the State laws and the required transfer of State records and certain portions of the State unemployment funds may not interrupt the operation of the Federal-State unemployment compensation programs.

OLD-AGE INSURANCE

"Old-age insurance is the only program under the Social Security Act for which administrative responsibility is lodged in the Federal Government alone. By June 30, 1938, nearly 40 million employee account numbers had been issued by the Social Security Board in connection with this system. The volume of present and future operations is evident from the fact that an individual account must be maintained as evidence of the amounts which may be used in computing the benefits of each person

OLD-AGE INSURANCE PAYMENTS

Total Wages [3]	Per Cent of Total Wages Payable as Monthly Benefit			Total Amount of Monthly Benefit [1]	Lump-Sum Payment [2] (3½ Per Cent of Total Wages)
	½ of 1 Per Cent of the First $3,000	1/12 of 1 Per Cent of Next $42,000	1/24 of 1 Per Cent of All Over $45,000		
$2,000	$10.00	....	....	$10.00	$70.00
$2,500	12.50	....	....	12.50	87.50
$3,000	15.00	....	....	15.00	105.00
$3,500	15.00	$0.42	....	15.42	122.50
$4,000	15.00	.83	....	15.83	140.00
$4,500	15.00	1.25	....	16.25	157.50
$5,000	15.00	1.67	....	16.67	175.00
$10,000	15.00	5.83	....	20.83	350.00
$15,000	15.00	10.00	....	25.00	525.00
$20,000	15.00	14.17	....	29.17	700.00
$25,000	15.00	18.33	....	33.33	875.00
$30,000	15.00	22.50	....	37.50	1,050.00
$35,000	15.00	26.67	....	41.67	1,225.00
$40,000	15.00	30.83	....	45.83	1,400.00
$45,000	15.00	35.00	....	50.00	1,575.00
$50,000	15.00	35.00	$2.08	52.08	1,750.00
$60,000	15.00	35.00	6.25	56.25	2,100.00
$70,000	15.00	35.00	10.42	60.42	2,450.00
$80,000	15.00	35.00	14.58	64.58	2,800.00
$90,000	15.00	35.00	18.75	68.75	3,150.00
$100,000	15.00	35.00	22.92	72.92	3,500.00
$110,000	15.00	35.00	27.08	77.08	3,850.00
$120,000	15.00	35.00	31.25	81.25	4,200.00
$129,000	15.00	35.00	35.00	[4] 85.00	[5] 4,515.00

[1] Monthly benefits will be payable, beginning Jan. 1, 1942, to workers at age 65 or over who (1) have been engaged in employments covered by title II of the Social Security Act, (2) have retired from regular employment, and (3) have received total wages, as defined in the act, amounting to not less than $2,000 for employment in any part of a day in at least 5 different calendar years after Dec. 31, 1936, and before reaching age 65.

[2] Lump-sum payments are made, beginning Jan. 1, 1937, (1) to workers at age 65 who have been engaged in employments covered by title II of the Social Security Act if their total wages from covered employment after Dec. 31, 1936, and before reaching age 65 amount to less than $2,000 or if their total wages have not been received for work in covered employment in at least 5 different calendar years; and (2) to the estates of workers who die before receiving the benefits to which their total wages entitle them.

[3] Not counting that portion of wages in excess of $3,000 a year from any 1 employer.

[4] Maximum monthly benefit.

[5] No maximum is set for lump-sum payments.

who receives wages from covered employment at any time in his life after 1936 and before he is 65. Doubts had been expressed by some persons that individual wage records could be maintained for millions of workers. It is a satisfaction to report that the Board has received more than 37 million individual wage reports for each half of the calendar year 1937 and that posting of these items to the employee accounts was substantially completed shortly after the close of the fiscal year.

"Reported wages in covered employment in the calendar year 1937 aggregated more than $28 billion and included the larger part of all wage and salary payments made that year in the United States. It is estimated that wage items reported for 1937 relate to wages received for part or all of that year by more than 32 million individuals. It seems clear that the shifts of individual workers between covered employment and other occupations are serving to include in the old-age insurance system an even larger share of the gainfully occupied population than had been anticipated. By the close of the fiscal year procedures had been established for answering the queries of individual workers as to the amounts of wages reported on their behalf and posted to their accounts, and for tracing and endeavoring to reconcile any discrepancies which might be found between the amount reported by an employer for a given worker and the amount which the employee believed he had received.

"Under the old-age insurance system only lump-sum amounts are now payable. The handling of claims for these payments, which began early in 1937, continued through the fiscal year in increasing volume. By June 30, 1938, claims aggregating $5.9 million had been certified by the Board to the Secretary of the Treasury for payment. A lump-sum amount is payable to an eligible worker at age 65 or to the surviving spouse, legally qualified relatives, or estate of an eligible worker who has died. Payments are based on amounts received by workers for covered employment after 1936 and before age 65 or death prior to that age. With continuance of the program the average payment, which was $47.70 for claims certified in June 1938, is rising steadily. These claims are filed and are handled initially in the Board's field offices, which also were responsible for issuing more than 9.6 million account numbers during the fiscal year.

"Lump-sum payments are made from the old-age reserve account maintained by the Treasury and are the only disbursements which may be made from that account until monthly benefits become payable to qualified retired workers at age 65 or thereafter. The Treasury reported that as of June 30, 1938, the sum of $652.0 million had been transferred to the account from appropriations for 1937–38 and for the prior fiscal year, while total interest credited to the account as of that date exceeded $17.6 million. At the end of the year the account held $662.3 million invested in special obligations of the Government, and $1.9 million in cash; the Treasury Department had disbursed $5.4 million in lump-sum payments.

PUBLIC ASSISTANCE

"In public assistance under the Social Security Act the year has been marked by the growth of the State programs for old-age assistance, aid to the blind, and aid to dependent children, and by increasing effectiveness in their administration. The Social Security Board has certified grants of $209.4 million to the States for public assistance in the fiscal year 1937–38, as compared with $146.1 million for the year 1936–37. There were nearly 1.7 million recipients of old-age assistance in June 1938 as compared with less than 1.3 million in the June preceding. In June 1938 aid was provided in States cooperating under the Social Security Act for 604,000 dependent children in 244,000 families; for June 1937, aid was given for 427,000 children in 171,000 families. There were 39,000 recipients of aid to the blind in cooperating States in June 1938 as compared with 35,000 in June 1937. Total obligations incurred in 1937–38 from Federal, State, and local funds for payments to recipients of public assistance under the Social Security Act amounted to $454 million as compared with $293 million for 1936–37.

"Before the end of the fiscal year Federal funds were granted under the Social Security Act for old-age assistance in 47 States, and in Alaska, Hawaii, and the District of Columbia. The one remaining State had passed legislation for this and for the other two public-assistance programs.[1] A Nation-wide basis therefore has been established for Federal-State cooperation for old-age assistance. As of June 30, 1938, Federal funds were administered under approved plans for aid to dependent children in 38 States, and in the District of Columbia and Hawaii; and for aid to the blind in 37 States, and the District of Columbia and Hawaii. In all, of the 51 jurisdictions eligible to cooperate in public assistance under the Social Security Act, 34 States, the District of Columbia, and Hawaii had all three plans approved as of June 30, 1938. During the year the Board approved 16 new State plans for public

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[1] Virginia's plans for old-age assistance, aid to dependent children, and aid to the blind were approved by the Board on Sept. 2, 1938; on Aug. 30 the Florida plan for aid to dependent children was approved and on Oct. 18 the Mississippi plan for aid to the blind.

FEDERAL APPROPRIATIONS AND EXPENDITURES UNDER THE SOCIAL SECURITY ACT

(fiscal years 1936–37 and 1937–38 [1])

Item	Fiscal Year 1936–37		Fiscal Year 1937–38	
	Appropriations [2]	Expenditures [3]	Appropriations [2]	Expenditures [3]
Administrative Expenses				
Social Security Board:				
Salaries and expenses, and wage records	$30,749,700	$15,433,916.68	$10,500,000	$19,613,584.38
Department of Commerce (Bureau of the Census):				
Salaries and expenses	....	101,844.48 [4]	25,000	8,513.70
Department of Labor (Children's Bureau):				
Salaries and expenses	299,000	295,198.61	306,000	336,379.18
Total, administrative expenses	31,048,700	15,830,959.77	10,831,000 [2]	19,958,477.26 [3]
Grants to States				
Social Security Board:				
Old-age assistance	126,525,000 [5]	124,817,575.34	166,500,000 [5]	182,198,734.35 [6]
Aid to dependent children	14,800,000 [5]	14,297,277.96	24,900,000 [5]	25,498,282.01
Aid to the blind	4,675,000 [5]	4,641,947.33	5,200,000 [5]	5,161,249.06
Unemployment compensation administration	29,000,000	9,133,785.16	22,500,000 [7]	41,910,919.49 [8]
Total, Social Security Board	175,000,000	152,890,585.79	219,100,000 [2]	254,769,184.91 [3]
Department of Labor (Children's Bureau):				
Maternal and child-health services	2,820,000	3,114,583.93	3,700,000	3,775,545.57
Services for crippled children	2,150,000	2,120,921.53	2,800,000	2,691,940.82
Child-welfare services	1,200,000	980,490.68	1,475,000	1,365,749.56
Total, Department of Labor	6,170,000	6,215,996.14	7,975,000	7,833,235.95
Treasury Department (Public Health Service):				
Public-health work	8,000,000	7,819,415.33	8,000,000	8,892,079.88
Total, grants to States	189,170,000	166,925,997.26	235,075,000 [2]	271,494,500.74 [3]
Old-age reserve account (general fund) [9]	265,000,000	265,000,000.00	500,000,000	387,000,000.00
Grand total	485,218,700	447,756,957.03	745,906,000	678,452,978.00

[1] This table follows the form used by the Treasury Department in reporting appropriations and expenditures pursuant to the provisions of the Social Security Act. Certain funds appropriated pursuant to the act are not included here, because the Treasury does not segregate these funds from other funds appropriated for the same purposes. This is true of funds for vocational rehabilitation, for which there was appropriated under the Social Security Act $841,000 for the fiscal year 1936–37 and $1,800,000 for the fiscal year 1937–38 for grants to the States, and $74,420 for 1936–37 and $95,000 for 1937–38 for administration. For the fiscal year 1936–37, $5,801,550 was appropriated to the Bureau of Internal Revenue for collection of taxes under titles VIII and IX. For 1936–37, $31,860 was appropriated to the Treasury Department for salaries in connection with maintenance and development of the old-age reserve account (title II). The U. S. Public Health Service received appropriations of $1,320,000 for 1936–37 and $1,600,000 for 1937–38 for research and administration, in addition to the sums for grants to the States shown in this table.

[2] Excludes reappropriations of unexpected balance of appropriations for the previous fiscal year.

[3] On a checks-paid basis. (Similar tables in previous annual reports of the Social Security Board were on a checks-issued basis.) Includes expenditures from reappropriated balance of appropriations for the previous fiscal year.

[4] Expenditures made from 1935–36 appropriation, salaries and expenses, U. S. Bureau of the Census.

[5] After transfer of funds to old-age assistance from appropriations for aid to dependent children and aid to the blind.

[6] Includes expenditures from reappropriated balance of appropriations for the preceding fiscal year and from 1938–39 funds made available in advance.

[7] Includes an additional appropriation of $3.5 million approved May 25, 1938.

[8] Includes grants by the Social Security Board to States for employment service administration to meet the requirements of the unemployment compensation program. Includes expenditures from reappropriated balance of appropriation for the preceding fiscal year.

[9] For a statement of the reserve-fund status as of June 30, 1938 (showing payments made and interest credited), see table A-8 in the annual report of the Board.

SOURCE: U. S. Treasury Department: Appropriations from the Office of the Commissioner of Accounts and Deposits; expenditures from the Daily Treasury Statement.

assistance and 35 revised plans in which changes or extensions of previously approved plans had been made.

"Public assistance under the Social Security Act obviously is related to other forms of public aid maintained by Federal, State, and local governments. The Social Security Board has therefore undertaken, at the request of other governmental agencies and with their cooperation, to report monthly on all public aid to persons in need. These summary reports include data on the Works Program, the Civilian Conservation Corps, public assistance and general relief, and subsistence grants to farmers. In 1937–38 this public aid to persons in need amounted to nearly $2.5 billion, exclusive of transient care and administrative expense. This total is $73 million less than the amount reported for 1936–37. The Board estimates that in June 1938 some 6.4 million different households, including about 20.4 million persons, were receiving one or more of these various types of public aid. A considerable decline in relief costs and in numbers of recipients during the first quarter of the fiscal year was followed in later months by a sharp rise coincident with the general decline in employment.

HOUSING

By Stewart McDonald

Federal Housing Administrator

VOLUME AND VALUE OF OPERATIONS

The year 1938 was the most fruitful in the history of the Federal Housing Administration, not only from the standpoint of the volume of business transacted but also in the wider acceptance of the basic principles outlined in the National Housing Act. It is evident that the FHA program is providing the residential building and mortgage lending markets with many of the elements necessary for long range stability.

In spite of the marked lag in business during the first six weeks of the year, FHA business in 1938 exceeded $1,250,000,000. This exceeds the total reached in any year since its inception, surpassing the previous record annual total of $800,000,000 by more than 50 per cent.

While the spurt in FHA operations may be attributed in part to improved business conditions, the major portion of the increase was a direct result of amendments to the National Housing Act passed in February, 1938. Aside from restoring the provision for the insurance of modernization loans, the February amendments (1) enabled a far larger group of urban and suburban families to undertake home ownership; (2) opened the insured mortgage system to farm families; (3) established the feasibility of widespread construction activity under the rental housing provisions of the act; and (4) materially increased the volume of mortgage money available for home construction by adding new facilities for the purchase and sale of mortgages.

Including the new business handled during the year under the amendments, the Federal Housing Administration has transacted total business amounting to something more than $3,350,000,000. This includes approximately $2,500,000,000 in individual home mortgages selected for appraisal, $725,000,000 in property improvement loans insured, and $125,000,000 in rental housing mortgages accepted.

HOME MORTGAGE INSURANCE

The insurance of small home mortgages under the amended provisions of the act was an outstanding feature of the Administration's activities. During 1938 the volume of mortgages selected for appraisal reached a total of more than $1,000,000,000, an increase of 70 per cent over the $590,000,000 selected during 1937. Commitments to insure mortgages issued during 1938 amounted to approximately $650,000,000, an increase of almost 50 per cent over 1937.

Provision in the new amendments for the insurance of mortgages representing up to 90 per cent of the appraised value of new owner-occupied homes, where the mortgage amount does not exceed $5,400, has affected the home building situation in two favorable respects. Primarily, the smaller down payment required under the new plan has brought home ownership within the reach of a large group of families of moderate means who are capable of maintaining monthly payments on a home but found it difficult to accumulate the large first payment which lending institutions formerly required. Of equal importance is the fact that 90 per cent mortgage insurance is limited to cases involving new owner-occupied homes on which plans and specifications are submitted to the FHA prior to the beginning of construction and which are inspected for compliance during the building period.

In view of the rather general feeling among informed persons that the 90 per cent provisions might prove of little practical value, because of the unwillingness of lenders to make high loan-value-ratio mortgages, it is interesting to review the actual experience of the FHA in the period following the passage of the amendments.

It may be pointed out, in this connection, that until 1937 the Administration's business was largely in the field of refinancing mortgages on existing properties. At the end of 1937 it was found that 56 per cent of the total volume of mortgages accepted for insurance involved new home mortgages, but this figure included a group of mortgages, comprising 18 per cent of the total volume, which were secured by properties completed prior to the acceptance of the mortgage for insurance.

For the year 1938, new home mortgages have accounted for more than 65 per cent of the total volume of mortgage business accepted for insurance. While this total includes some properties completed prior to the acceptance of the mortgage for insurance, it is evident that a far larger percentage is being accepted prior to the start of construction and inspected during the building period.

An analysis of mortgages accepted for insurance during the period, April, May, and June when the program was just getting into stride, disclosed that 42 per cent of all mortgage loans accepted for insurance were made for from 81 to 90 per cent of the FHA valuation of the property. This is significant because all mortgages for more than 80 per cent of the value of the property must be inspected during the course of construction, whether they be those on properties where the mortgage does not exceed $5,400 or those where the mortgage is not in excess of $8,600. In the latter case, mortgage loans may range up to a maximum of 86 per cent of the valuation.

That new home mortgages accepted for insurance are largely in the group of those inspected for compliance is shown by the fact that 67.9 per cent of the amount of all such mortgages represented between 80 and 90 per cent of the property valuation. It is undoubtedly true that many of those representing smaller loan-value-ratio also were submitted for insurance prior to the start of construction. Final figures on this point are not now available.

RENTAL HOUSING INSURANCE

Another interesting result of the February amendments to the NHA is the marked increase in activity in the field of rental housing insurance, both under the revised Section 207 and under the new Section 210. Since the amended National Housing Act went into effect in February, through October, the FHA issued commitments to insure 163 large scale multifamily housing projects, involving mortgages totaling $60,313,950, which will provide living accommodations at reasonable rentals for 14,843 families.

Under the original act, it was contemplated that the FHA would offer insurance largely on types of projects, such as Buckingham Community in Arlington, Va. which would involve the construction of very large groups of apartment buildings and individual houses for rent. Under the original Section 207, the maximum insurable mortgage was $10,000,000.

The new rental housing set-up provides for two types of projects. Under the amended Section 207 the division may insure mortgages up to a maximum amount of $5,000,000. The projects may be composed of individual free-standing houses or of groups of apartments. Under this section, the FHA has supervision over both the rentals charged and the dividends paid by the sponsoring company. Many projects similar to the Buckingham Community, Colonial Village, Brentwood Village, to mention a few of the better known developments, are now under construction or are being planned for construction next year.

The new Section 210 provides for a slightly different type of project. Two major differences between the two types of projects should be noted. First, the maximum mortgage insurable under the new Section is $200,000; second, the FHA does not control the rentals or dividends paid.

A new feature of the rental housing program, which is common to both sections, is the permission granted, when the project is composed of free-standing houses, to either sell or rent individual properties. Where arrangement is made for the sale of individual houses, each property is released from the blanket mortgage upon its sale.

The broad applicability of the Rental Housing program is demonstrated by the fact that, as of Dec. 1, 1938, the Division had either under construction or in operation 127 projects valued at $78,000,000, on which it has insured mortgages amounting to just under $60,000,000. These projects provide accommodations for 15,600 families. The Rental Housing Division has issued additional commitments on 96 projects, involving mortgages of $40,000,000, many of which should be placed in construction in the near future.

FARM MORTGAGE INSURANCE

In setting up its farm mortgage insurance program, the Federal Housing Administration has taken full cognizance of the fact that its work is supplementary to that of various older farm real estate financing agencies. A survey of these financing facilities shows, however, that, despite the existence of the various farm agencies, several large groups of families may find the Insured Mortgage System the only available avenue for obtaining needed funds.

Federal legislation in the housing field has been divided sharply into that for urban families and that for farm groups. This division in the unctions of various government agencies is not paralleled by a definite cleavage between farm and urban properties. Because many farm properties partake of the characteristics of urban properties and because many suburban properties are found to have attributes of farm properties, individual property owners have in the past found it difficult to obtain any financial assistance.

FHA insurance of mortgages probably should prove of the greatest assistance to owners or prospective owners of so-called "part-time" farms. While these properties rightly fall within the rural property classification, farm agencies often have hesitated to classify them as such both because of their small size and because of the fact that the operator derives a substantial proportion of his income from off-farm work.

It has been noted that while a number of applications are being received from full-time farmers, especially those desiring to rebuild or repair properties damaged by fire, tornado, etc., a large number of the cases submitted to date have involved part-time farm operators. Insured mortgage loans are being used largely to make additions or repairs to homes and other farm buildings, to refinance existing indebtedness upon a more desirable basis, etc. A few cases involve the purchase of a farm or of additional land.

PROPERTY IMPROVEMENT LOANS

Prior to the lapsing of the provisions for the insurance of property improvement loans on April 1, 1937, the Federal Housing Administration had insured some 1,450,000 individual notes amounting to more than $560,000,000. Since the restoration of the loan insurance provisions in Febraury, approximately 375,000 individual loans amounting to approximately $170,000,000 have been insured.

During the last few months of 1938, loans were received at the rate of nearly 10,000 per week, with the daily volume aggregating in the neighborhood of $1,000,000. Heavy modernization activity during the fall and winter months tended to bolster the building industry during the normally slow building months and promised to have a marked effect upon the general business situation.

FINANCIAL CONDITION AND LOSSES

It was considered likely by the founders of the Federal Housing Administration that the Mutual Mortgage Insurance System would be largely self-sustaining and that the FHA would operate without cost to the taxpayers once it was well established. This was held particularly probable once the emergency phases of the act—the non-self-sustaining Property Improvement Credit Plan—came to an end.

On Aug. 1, 1937, soon after the expiration of most of the original Title I insurance phases, the Administration was able to announce that it would pay a major portion of its own future expenses. Even now at the close of 1938, with the property improvement loan activities again in operation, the Administration is paying a substantial portion of its own operating expenses.

Income, from appraisal fees, annual mortgage insurance premiums, and other sources, is being received at the rate of approximately $1.000.000 a month. While part of current receipts must go to augment the Mutual Mortgage Insurance Fund and the Housing Insurance Fund, a substantial portion of receipts is properly applied to the defrayment of operating expenses.

The Mutual Mortgage Insurance Fund, covering mortgages on individual homes, was established with an original grant of $10,000,000 and now stands at more than $24,000,000 (including the Housing Insurance Fund of $1,000,000 for rental mortgages). Outstanding against this Fund on Oct. 31, 1938 were debentures for foreclosed properties totaling $1,126,423.

The loss ratio experienced to date is remarkable. As of Oct. 31, the Administrator had acquired title to 358 of the 285,000 properties covered by premium paying mortgages. More than $1,200,000,000 in mortgages were paying premiums on the same date. Of the 358 properties acquired by the Administration, 197 had been sold at the end of August, leaving only 161 on hand. The net charge to the Mutual Mortgage Insurance Fund, as a result of the sale of these properties, was $140,688.

Insurance on rental housing mortgages is provided by the Housing Insurance Fund, established in February, 1938, by the transfer of some $1,000,000 in appraisal fees and mortgage insurance premiums to a separate fund. Premiums and appraisal fees received on rental housing projects will be used to augment the fund. No claims have been made against this fund as yet.

Under the Property Improvement Credit Plan, losses claimed by private lending institutions are paid out of a $100,000,000 fund supplied by the RFC. Neither lenders nor borrowers make contributions to this fund, largely because the insurance of modernization loans was considered an emergency measure which would assist in the re-employment of building tradesmen and in a reduction in the relief rolls.

Under the original plan, the Congress set aside a sum of $200.000,000 to pay such losses and guaranteed lending institutions against loss up to

20 per cent of the total value of all loans made. Later experience led to the reduction both of the percentage guarantee and the total size of the fund. Lending institutions are guaranteed against loss up to 10 per cent of the total volume of loans made.

Losses under the property improvement program had reached a total of $18,400,000 on Nov. 1, 1938. Cash collections and credits on repossessed properties at that date amounted to $5,800,000, leaving $12,600,000 in claims unadjusted on that date. In view of experience in past years, it is safe to say that, when the plan is finally terminated, there will be a substantial residual sum in the fund.

MORTGAGE LIQUIDITY

A final result of the recent amendments to the National Housing Act was the formation of the first National Mortgage Association—the Federal National Mortgage Association of Washington. With the entry of the new association into the field, a market for insured mortgages is definitely established.

Even prior to the formation of the F.N.M.A., originating institutions had a wide field for the sale of mortgages. Large insurance companies, large banks, building and loan associations, and other local institutions, as well as the RFC Mortgage Company, were already active in the field. The formation of the F.N.M.A., however, provided lending institutions with a permanent reservoir of funds.

Reports being received by the FHA indicate that lending institutions are anxious to purchase blocks of insured mortgages and that in many instances premiums of several points are being paid by the purchaser. Thus, one of the deterrents to the resumption of home building activity has been largely removed. Home purchasers are able now to obtain funds in nearly every part of the country. The operation of the FHA's Insured Mortgage System is stabilizing the supply of mortgage money, providing an outlet for surplus funds held by institutions in some sections, and making available additional funds in sections where there formerly had been a scarcity of mortgage money.

STATISTICAL, TECHNICAL, AND UNDERWRITING ACTIVITIES

One of the chief contributions which the FHA can make to the betterment of home mortgage conditions is in the field of study and analysis of mortgage loan experience. Two types of studies are being carried out at the present time, one concerned with the mortgages insured under its program and the other a study of the experience of individual lending institutions.

Already the Administration has as a basis of study well over 250,000 individual home mortgages. The study of these transactions during the life of each individual mortgage will in time reveal a number of interesting facts. It may be that the FHA will be able, from its own experience, to make valuable contributions to the science of home mortgage lending.

In cooperation with certain lending institutions, the FHA also is conducting studies of long term mortgage loan experience. These studies, when finally completed, should prove of further value.

Aside from its statistical studies, the Administration is working steadily to improve the character of mortgages and the properties securing them, through its underwriting and technical activities. By applying standardized appraisal and risk rating procedures throughout the country, and modifying its procedures as experience dictates, it is gradually improving the character of the mortgages which it is accepting for insurance.

In the technical field, it is making definite strides toward the eradication of "jerry-building", the improvement of home design, the creation of better neighborhoods, and similar matters. The year 1938 saw the completion of the preparation of localized minimum construction requirements and property standards for the various States. The application of these requirements has had a marked effect upon construction standards in every part of the country. It is clear also that the stress which has been laid upon home design is being felt. From the evidence of homes actually constructed, it appears that the small house, costing $5,000 or less, is designed more efficiently, is more attractive, and is constructed more soundly than in former years.

With its property standards in effect throughout the country, and receiving wide recognition, the FHA is turning its attention more and more to the question of the creation of sound neighborhoods. It is fruitless to construct sound attractive houses in neighborhoods which will fall to pieces long before the properties have outlived their usefulness. During the next year, therefore, the FHA will devote a large part of its technical resources to stressing the necessity for better planning, proper zoning, proper deed restrictions, and other matters connected with the creation of lasting and attractive neighborhoods.

PERIODICAL PUBLICATIONS

American Childhood Magazine
111 Eighth Ave., New York City.

American Journal of Public Health and the Nation's Health
50 West 50th. Street, New York City.

American Journal of Psychiatry
2 East 103d. Street, New York City.

Boy's Life
Boy Scouts of America, 2 Park Ave., New York City.

Child Health Bulletin
50 West 50th. Street, New York City.

Housing
105 East 22nd. St., New York City.

Journal of Home Economics
101 East 22nd. Street, New York City.

Journal of Social Hygiene
50 West 50th Street, New York City.

Social Research
66 West 12th. Street, New York City.

Social Review
250 Park Ave., New York City.

Social Studies
1021 Filbert Street, Philadelphia.

Social Work Today
6 East 46th. Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

JUSTICE AND MAINTENANCE OF ORDER

AMERICAN BAR ASSN., Section on Criminal Law, Endicott Bldg., St. Paul, Minn.

AMERICAN CIVIL LIBERTIES UNION, 31 Union Sq., New York City.

AMERICAN COUNCIL OF LEARNED SOCIETIES, 597 Fifth Ave., New York City.

AMERICAN INSTITUTE OF CRIMINAL LAW AND CRIMINOLOGY, 357 E. Chicago Ave., Chicago, Ill.

AMERICAN LAW INSTITUTE, 3400 Chestnut Street, Philadelphia, Pa.

AMERICAN PRISON ASSN. OF N.Y., 135 E. 15th St., New York City.

NATIONAL COMMITTEE ON PRISONS AND PRISON LABOR, 1860 Broadway, New York City.

NATIONAL CRIME COMMISSION, 73 Tremont St., Boston, Mass.

NATIONAL POLICE CONFERENCE, 240 Centre St., New York City.

NATIONAL PROBATION ASSN., INC., 50 West 50th St., New York City.

NATIONAL SOCIETY OF PENAL INFORMATION, 114 E. 30th St., New York City.

SOCIETY FOR THE PREVENTION OF CRIME, 150 Broadway, New York City.

WOMEN'S PRISON ASSN., 110 Second Ave., New York City.

SOCIAL ORGANIZATIONS

American Academy of Political and Social Science, 3457 Walnut St., Philadelphia, Pa.

American Political Science Association, 305 Harris Hall, Northwestern University, Evanston, Ill.

American Red Cross, 17th between D and E Sts., Washington, D.C.

American Seamen's Friend Society, 72 Wall Street, New York City.

American Society for the Prevention of Cruelty to Animals, 50 Madison Ave., New York City.

Boy's Clubs of America, Inc., 381 Fourth Ave., New York City.

Boy Scouts of America, 2 Park Ave., New York City.

Camp Fire Club of America, 50 Union Square, New York City.

Children's Aid Society, 105 E. 22nd St., New York City.

Federal Council of the Churches of Christ in America—Commission on the Church and Social Service, 105 E. 22nd St., New York City.

Girls' Friendly Society of the U.S.A., 386 Fourth Avenue, New York City.

Girls' Service League of America, 138 E. 19th St., New York City.

Humane Society of New York, 313 East 58th St., New York City.

National Catholic Welfare Conference, 1312 Massachusetts Ave., N.W., Washington, D.C.

National Social Work Council, 50 West 50th St., New York City.

Young Men's Christian Assn., International Committee, 215 West 23rd St., New York City.

Young Women's Christian Association, 600 Lexington Ave., New York City.

SOCIAL FRATERNITIES

Benevolent and Protective Order of Elks of the U.S.A., 2750 Lake View Ave., Chicago, Ill.

International Assn. of Lions Clubs, 332 S. Michigan Ave., Chicago, Ill.

Kiwanis International, 520 N. Michigan Ave., Chicago, Ill.

Knights of Columbus, P.O. Drawer 1670, New Haven, Conn.

Knights of the Ku Klux Klan, Inc., Roswell Road, Atlanta, Ga.

Knights of Pythias, 1054 Security Building, Minneapolis, Minn.

Loyal Order of Moose, Mooseheart, Ill. (Supreme Lodge of the World).

Modern Woodmen of America, 1504 Third Ave., Rock Island, Ill.

Rotary International, 35 East Wacker Drive, Chicago, Ill.

Sovereign Grand Lodge of the Independent Order of Odd Fellows, 16 West Chase St., Baltimore, Md.

Supreme Council of the Royal Arcanum, 407 Shawmut Ave., Boston, Mass.

Supreme Council, 33° Ancient & Accepted Scottish Rite.—Northern Jurisdiction, 117 Statler Building, Boston, Mass.—Southern Jurisdiction, 1733 16th St., N.W., Washington, D.C.

Woodmen of the World, Sovereign Camp, 17th and Farman Sts., Omaha, Nebraska.

(SOCIAL) HOME LIFE

Landlords' Co-operative Assn., 18 E. 41st St., New York City.

National Housing Assn., 105 E. 22nd St., New York City.

National Plant, Flower & Fruit Guild, 1192 Sixth Ave., New York City.

New York Assn. for Improving the Condition of the Poor, 105 E. 22nd St., New York City.

(SOCIAL) CHILDREN

Big Brother and Big Sister Federation, Inc., 425 Fourth Ave., New York City.

Big Brother Movement, Inc., 315 Fourth Ave., New York City.

Camp Fire Girls, Inc., 41 Union Square, New York City.

Child Conservation League of America, 318 W. Washington St., Chicago, Ill.

Child Welfare League of America, 130 E. 22nd St., New York City.

Children's Aid Society, 105 E. 22nd St., New York City.

Committee on World Friendship Among Children, 297 Fourth Ave., New York City.

Hebrew Sheltering and Immigrant Aid Society, 425 Lafayette St., New York City.

National Child Labor Committee, 419 Fourth Ave., New York City.
National Child Welfare Assn., 70 Fifth Ave., New York City.

(SOCIAL) HEALTH

American Assn. of Social Workers, 130 E. 22nd St., New York City.
American Birth Control League, 501 Madison Ave., New York City.
American Child Health Assn., 50 West 50th St., New York City.
American Foundation for the Blind, Inc., 15 West 16th Street, New York City.
American Humane Assn., 50 Madison Ave., New York City.
American Mission to Lepers, 156 Fifth Ave., New York City.
American Social Hygiene Assn., Inc., 50 West 50th St., New York City.
Anti-Profanity League, Ware, Mass.
Better Films, National Council, 70 Fifth Ave., New York City.
Charity Organization Society of the City of New York, 105 E. 22nd St., New York City.
Chicago Crime Commission, 300 W. Adams St., Chicago, Ill.
Eugenics Research Assn., Cold Spring Harbor, L.I., N.Y.
National Committee for Mental Hygiene, 50 West 50th St., New York City.
National Health Council, 50 West 50th St., New York City.
National Housing Assn., 105 E. 22nd St., New York City.
National Recreation Assn., 315 Fourth Avenue, New York City.
National Save-A-Life League, Inc., 299 Madison Ave., New York City.
New York Society for the Suppression of Vice, 215 W. 22nd St., New York City.
Non-Smokers' Protective League of America, 344 W. 72nd St., New York City.
Travelers' Aid Society of N.Y., 144 E. 44th St., New York City.

(SOCIAL) TEMPERANCE

Anti-Saloon League of New York, 150 Fifth Ave., New York City.
National Temperance Society, 287 Fourth Ave., New York City.
World Narcotic Defense Assn., 578 Madison Ave., New York City.

FOUNDATIONS

Carnegie Endowment for International Peace, 405 West 117th St., New York City.
Carnegie Foundation, 522 Fifth Ave., New York City.
Carnegie Hero Fund Commission, 2307 Oliver Building, Pittsburgh, Pa.
Carnegie Institution of Washington, 16th and P Sts., N.W., Washington, D.C.
General Education Board, 49 W. 49th Street, New York City.
Guggenheim Foundation, 551 Fifth Ave., New York City.
Hall of Fame for Great Americans, New York University, University Heights, New York City.
Moro Educational Foundation, 475 Fifth Ave., New York City.
Rockefeller Foundation, 49 W. 49th Street, New York City.
Rockefeller Institute, York Ave. and 66th St., New York City.
Roosevelt Memorial Assn., 28 E. 20th St., New York City.
Russell Sage Foundation, 130 E. 22nd St., New York City.
Woodrow Wilson Foundation, 8 W. 40th St., New York City.

WOMEN'S WORK AND PROGRESS

American Assn. of University Women, 1634 Eye St., N.W., Washington, D.C.
American Nurses' Assn., 50 West 50th St., New York City.
American Women's Assn., Inc., 353 W. 57th Street, New York City.
General Federation of Women's Clubs, 1734 N St., N.W., Washington, D.C.
Girls Service League of America, 138 East 19th St., New York City.
National American Woman Suffrage Assn., Grand Central Terminal, New York City.
National Association of Women Painters and Sculptors, 42 W. 57th St., New York City.
National Council of Women, U.S.A., 4 Park Ave., New York City.
National Federation of Business and Professional Women's Clubs, 1819 Broadway, New York City.
National League of Women Voters, 726 Jackson Place, N.W., Washington, D.C.

NATIONAL WOMAN'S CHRISTIAN TEMPERANCE UNION, 1730 Chicago Ave., Evanston, Ill.

PROFESSIONAL WOMAN'S LEAGUE, Broadway and 73rd Street, New York City.

QUOTA CLUB INTERNATIONAL, INC., 1204 18th St., N.W., Washington, D.C.

WOMEN'S EDUCATIONAL AND INDUSTRIAL UNION, 264 Boylston St., Boston, Mass.

WOMEN'S ROOSEVELT MEMORIAL ASSN., Roosevelt House, 28 E. 20th St., New York City.

WOMEN'S TRADE UNION LEAGUE, 247 Lexington Ave., New York City.

DIVISION XVI
LABOR AND LABOR LEGISLATION

LABOR CONDITIONS

By Isador Lubin

Commissioner of Labor Statistics, Department of Labor

GENERAL

As in preceding years of the present decade, the dominant labor problem of 1938 was that of unemployment. Conditions at the end of the year were much better than at the beginning but there were still some 8,000,000 to 10,000,000 workers without regular jobs. Two lines of attack upon this vital problem were initiated in 1938 by the Federal Government. The first was the passage in June of the Fair Labor Standards Act which, in addition to fixing minimum wages in a large section of American industry, sought to increase employment opportunities by fixing an immediate limit of 44 hours and an ultimate limit of 40 hours on the weekly working time unless overtime is paid at one and one-half the regular rate. The second, and possibly a more reaching effort towards the development of better employment conditions, was the creation by Congress of a special body, known as the Temporary National Economic Committee, to inquire into the operation of the whole economic system with the object of devising measures by which the system in its various parts can be made to function more satisfactorily from the standpoint of labor as well as of industry and of the public.

TREND OF EMPLOYMENT

The sharp decline in employment which occurred in the latter part of 1937 continued to the middle of 1938. Thereafter recovery was rather rapid but at the end of the year was still far short of the 1937 peak which, it will be remembered, was only slightly below that of 1929. The latest available detailed figures of the Bureau of Labor Statistics are for October, 1938. These show that the factory employment index, which had been at 107.2 in October, 1937, dropped to a 1938 low of 81.6 in June and then rose to 89.6 in October, representing a decline of 16.4 per cent in one year. In some of the nonmanufacturing industries the changes in employment were less marked, but in October, 1938 employment in metalliferous mining was 30.5 per cent lower than in October, 1937 and in building construction, 26.7 per cent lower.

Expressed in actual figures, it is estimated that in October, 1937 there were about 35,000,000 persons employed in other than agricultural pursuits; that by June, 1938 some 3,250,000 of these had lost their jobs; and that by the end of 1938 about 1,000,000 had been restored to work. This figure does not include workers on projects of the Works Progress Administration or other Federal emergency agencies. In this connection it may be noted that the sharp downturn in business activity beginning in the latter part of 1937 resulted in a large expansion of employment on projects financed in whole or in part from Federal funds. In some of the relatively unimportant emergency employment projects, the number of workers was somewhat smaller in October, 1938 than in October, 1937 but in the major projects operated by the Works Progress Administration the number in October, 1938 was 3,242,000, this number being 1,714,000 larger than in October, 1937. The progressive expansion of business activity late in 1938 was accompanied by considerable declines in the number of persons employed on projects financed from public funds.

UNEMPLOYMENT

Unemployment is a result of three main factors: variations in business activity, increased output per worker without corresponding increases in production, and changes in the number of persons seeking employment. The Census of Unemployment of November, 1937 showed a total of 7,845,000 unemployed, including emergency workers; 5,833,000 total unemployed, excluding emergency workers; and 3,220,000 partly unemployed. As after November, 1937 the employment figures showed serious declines, unemployment was much larger throughout 1938 than in November, 1937, at the time of the Census. An estimate made before the Temporary National Economic Committee early in December, 1938 gave the total of employed persons in October, 1938, including agriculture but excluding relief work, as about 44,231,000 and the total labor supply as about 55,000,000, the estimate of unemployment thus being somewhat less than 11,000,000. An estimate was made before this Committee to the effect that the volume of industrial production would need to rise about 40 per cent above the level of the latter part of 1938 to reduce unemployment to the same percentage of the working population as in 1929. Such estimates are rough approximations subject to various qualifications but serve to indicate the gravity and persistence of the problem of unemployment.

PAY ROLLS OF WAGE EARNERS

In private employment pay rolls followed approximately the same trends as employment but showed greater variability because of the variation in time worked and in wage rates. In manufacturing as a whole the weekly pay rolls in October, 1938 were 19.9 per cent lower than in October, 1937, while employment, as previously stated, was only 16.4 per cent below the level of October, 1937. In nonmanufacturing industries also there was a wider range in pay rolls than in employment.

The extreme variations in business conditions during 1937 and 1938 are indicated by the percentage variations in weekly pay rolls between the highest and lowest months from January, 1937 to October, 1938. In manufacturing industries as a whole, the percentage variation was 35.6 per cent; in the durable-goods group, 48.9 per cent; and in the nondurable-goods group, 23.5 per cent. The industry with the most extreme variation was beet-sugar manufacturing, with a maximum divergence of 85.7 per cent between the pay rolls of the highest and lowest month. Among nonmanufacturing industries the largest percentage variation was 71.2 per cent in anthracite mining. The smallest variation among manufacturing industries was 10.9 per cent in the printing of newspapers and periodicals and the smallest variation in the nonmanufacturing industries was 7 per cent in electric railroad and motor-bus operation and maintenance.

Pay rolls on projects financed from Federal funds followed approximately, but on a somewhat lower level, the trends of employment on these projects. The main field of employment and wage payments was in the projects operated by the Works Progress Administration. While the number of persons employed on these projects was 112 per cent larger in October, 1938 than in October, 1937, the pay-roll figure was only 104 per cent larger.

WEEKLY EARNINGS

In October, 1938 average weekly earnings of wage earners in all manufacturing industries amounted to $23.92. The figure for October, 1937 was $25.39. The decline was largely a result of shorter working time, mainly part time, as there had been few significant changes in the normal working week. A minor factor in the decline was a slight reduction in hourly earnings. There was a wide range of weekly earnings in the various manufacturing as also in the nonmanufacturing industries.

The highest weekly earnings were received by wage earners in the printing of newspapers and periodicals. Their weekly earnings in October, 1938 were $37.25. The highest average in nonmanufacturing industries was in crude-petroleum production—$33.81. The five manufacturing industries with the highest average weekly earnings were newspapers and periodicals, automobiles, petroleum refining, beverages, and explosives, the range being from $37.25 to $31.62. The five manufacturing industries with the lowest average weekly earnings were shirts and collars, cottonseed oil, cake and meal, cotton goods, men's furnishings, and knitted underwear, the range being from $12.84 to $14.86.

The nonmanufacturing industry with lowest average weekly earnings (with the exception of hotels, where perquisites affect the figure) was laundries with an average of $17.24. In addition to these industries with relatively low weekly earnings, the following industries paid average weekly earnings below $18: knitted underwear, corsets and allied garments, general merchandising, chewing and smoking tobacco and snuff, boots and shoes, cigars and cigarettes, fertilizers, canning and preserving, and silk and rayon goods.

For any given month, as October, the seasonal factor affects various industries in varying degrees, and average weekly earnings depend vitally in highly seasonal industries on whether a particular month is during the seasonal peak or some other period of the year.

Weekly earnings when adjusted to changes in the cost of living showed little change during 1938 because the index of cost of living was virtually constant. In March, 1938 this index, expressed in percentages of the 1923–25 average, was 83; in June, 83.3; and in September, 1938, 82.7. There was a slight decline in 1938 from the 1937 average which was 84.3.

HOURLY EARNINGS

Average hourly earnings in most industries underwent no significant changes during the latter part of 1937 and the year 1938. In 1937 there was a gradual rise in manufacturing industries as a whole from 59.6 cents in January to 66.6 cents in October. The tabulation below shows the monthly figures in January, 1937 and from October, 1937 to October, 1938. Beginning in July, 1938 the figures are lowered about one-half cent because of the exclusion of railroad repair shops from the reports of the Bureau of Labor Statistics.

1937

January	59.6	November	66.7
October	66.6	December	66.6

1938

January	66.3	June	64.8
February	65.7	July	63.9
March	65.5	August	62.9
April	65.2	September	63.2
May	65.0	October	63.7

In some of the separate manufacturing industries and also in some of the nonmanufacturing industries there was a somewhat greater degree of change over the period than in manufacturing as a whole, although hourly earnings in most instances remained comparatively stable after October, 1937.

The figures of average hourly earnings for the various industries show a range in October, 1938 from 99.1 cents per hour in the printing of newspapers and periodicals (one of the manufacturing industries) and 92.5 cents in anthracite mining (the highest in the nonmanufacturing group) to 25.2 cents in cottonseed oil, cake and meal (among the manufacturing industries) and 41.8 cents in laundries (among the nonmanufacturing industries). This range does not include hotels (with an average of 31.9 cents) because, as noted above, the rates in the hotels are affected by perquisites.

HOURS OF WORK

Estimates of average hours worked per week are obtained by the Bureau of Labor Statistics from extensive reports of employment and man-hours in a large number of industries. These estimates of average weekly hours range widely from industry to industry and also from month to month in the same industry because of differences in part time, overtime, labor turnover, and other factors, as well as on account of differences in regularly scheduled or normal hours of plant operation or of shifts. In manufacturing industries as a whole, average weekly hours in 1937 ranged from 41 in March to 34.4 at the end of the year, this variation being due almost wholly to changes in business conditions which, in turn, affected part time, labor turnover, etc. In October, 1937 the average for all manufacturing industries was 37.6. Since average weekly hours actually worked are probably not less than 10 per cent below the normal or regularly scheduled hours worked by ordinary full-time employees, the average normal working week was no doubt considerably above 40 hours in manufacturing industries. In the principal nonmanufacturing industries, average weekly hours actually worked in October, 1938 ranged from 26.2 in bituminous-coal mining to 46.7 in year-round hotels. There was a similar range in the separate manufacturing industries, the extremes being 29.2 hours in locomotive building and 51.3 hours in the making of cottonseed oil, cake and meal.

When the principal manufacturing and nonmanufacturing industries are considered together, about 60 per cent of the wage earners employed in these industries had average hours actually worked of more than 39 per week. More than 50 per cent of the workers in these industries had average weekly hours of more than 40, while about 46 per cent had an average of more than 41 hours per week. Since these figures are average hours actually worked, it is apparent that, in many industries, the normal or regularly scheduled hours were considerably higher.

DIVERSITY OF LABOR CONDITIONS

General averages are significant but must be interpreted in the light of underlying diversities. These are illustrated by the figures of average hourly entrance rates of adult male common laborers in 20 industries as shown in a survey by the U. S. Bureau of Labor Statistics. In these 20 industries combined, the average rate in identical establishments in July, 1937 was 51.5 cents and in July, 1938, 51.7 cents, virtually no change. Rates in the South and Southwest in July, 1938 averaged 35.7 cents as against an average of 55.9 cents for the North and West. In the 20 industries (building construction, three public utilities, and 16 manufacturing industries), the average rates in July, 1938 in the North and West ranged from 67.5 cents in petroleum refining to 47.6 cents in the fertilizer industry. In the South and Southwest, the range in the 20 industries was from 57.9 cents in petroleum refining to 24.9 cents in the lumber industry. The State with the highest average entrance wage rates for all of the 20 industries combined in July, 1938 was Washington where the average was 62 cents. The State with the lowest average (24.6 cents) was Georgia. These averages are, of course, affected by the predominant types of industry in the several States as well as by intrinsic differences in the rates.

The range of hourly entrance rates paid to individual common laborers showed variations from below 12.5 cents to above $1.10. In the South and Southwest, two-tenths of one per cent of Negro common laborers were paid as an entrance rate less than 12.5 cents. In the North and West, four-tenths of one per cent of white common laborers were paid as an entrance rate between $1.00 and $1.10 while a few were paid more than $1.10.

Another illustration of the wide diversity of labor conditions is to be found in the reports of the Railroad Retirement Board on railroad wages and months of service in 1937. The number of employees whose names appeared on the pay rolls of

Class I steam railroads in 1937 and who received as compensation not more than $300 in any one month was 1,720,558. Of these, only 904,636 had work during some part of all of the 12 months of the year. These regularly employed workers received an average of $1,779 per year. The general average for all employees, however, was only $1,108. The 47,578 employees who had work during some part of six months averaged $507. A comparatively skilled and characteristic group of railroad workers are through-freight brakemen and flagmen. Of these, there were 30,229 who did some work for Class I railroads in 1937. The average pay of this group was $1,624. Only 19,650 of the total had work during some part of all of the 12 months of the year and the average compensation of these regularly employed workers was $2,086. Those who had work during some part of six months of the year received an average of only $631 for the year. Another distinctive group of railroad workers, but an unskilled group, consists of section men. The total number who had work during any part of the year 1937 was 273,148 and the average pay for the year was $347. Those who had work during some part of each of six months received an average compensation of $313. Those who had work during some part of each of the 12 months of the year, numbering 74,454, averaged $850 for the year.

PUBLIC POLICIES AFFECTING WAGES AND HOURS

In 1937 railroad employees obtained certain readjustments in wage rates. These adjustments were in harmony with the general upward trend of wage rates in other industries. In May, 1938 railroad employers served notices of their intention to reduce rates of pay 15 per cent on July 1, 1938. After the failure of prolonged negotiations and of efforts by the National Mediation Board to settle the controversy, the President on Sept. 27 created an Emergency Wage Board under the authority of the Railway Labor Act. This Board after extensive hearings, recommended against the proposed cuts and the employers accepted the recommendations.

The Public Contracts Board, created under the Public Contracts Act of July 30, 1936 for administering the provisions of that act relating to labor conditions in establishments making goods under contract with the United States Government, extended its activities in 1938 to include several additional industries. Minimum wage determinations becoming effective in 1938 related to men's welt shoes (Jan. 5), dimension granite (Jan. 15), handkerchiefs (Jan. 26), envelopes (May 12), leather and sheep-lined jackets (May 13), vitreous or vitrified china (May 19), flint glass (July 12), luggage and saddlery (July 27), wool carpets and rugs (Oct. 15), fireworks, including fuses, flares, etc. (Oct. 15), and tags (Oct. 31). In some of these industries regional differentials were granted. The conditions fixed by the minimum-wage determinations included minimum hourly rates and minimum weekly earnings for a week of 40 hours.

The general purpose of the Public Contracts Act and of the wage determinations under the act was somewhat similar to the purpose of the Fair Labor Standards Act of 1938. This act, as explained by the Wage and Hour Division of the U.S. Department of Labor which is charged with its administration, is designed to maintain a "ceiling for hours and a floor for wages." It is also designed to afford special protection for children. Since the act did not go into effect until Oct. 24, 1938, the results in achieving the intent of Congress can not be evaluated statistically until later. (See section on Labor Legislation.)

STRIKES

Statistical Comparison.—Strikes in 1938 were less numerous, involved a smaller number of workers, and resulted in a smaller loss of time than in 1937. Comparing statistics for the first 11 months of these two years, there were about half as many strikes in 1938 as in 1937 involving about a third as many workers and man-days of idleness. It is believed that these ratios will be affected little by the events of the last month of 1938. Individual strikes involved fewer than 10,000 workers in 1938, with the exception of the strike of hosiery workers in Pennsylvania, New Jersey, and New York, and the strike against local and long distance trucking firms in New York and New Jersey. Other stoppages involving a fairly large numbers of workers were those of rubber workers in Ohio, the heavy industries in Michigan and Pennsylvania, and department store employees in California.

Hosiery Workers' Strike.—About 20,000 workers were involved in the hosiery industry strike called in Pennsylvania, New Jersey, and New York Feb. 28. Most of the workers were back at work on March 4, Most of the full-fashioned hosiery concerns in the jurisdictions involved were operating under an agreement which became effective in July, 1937 between the Full-Fashioned Hosiery Manufacturers of America, Inc. and the American Federation of Hosiery Workers. The agreement provided for reconsideration of the wage scale if, during the term of the agreement, any significant change in the factors upon which wages depended should occur. Either party was given the right to demand a change. If satisfactory settlement could not be reached within 15 days, the agreement provided further that the dispute should be arbitrated by a tribunal of three members made up of one employer representative, one employee representative, and a third person selected by the two members previously selected. The Manufacturers' Association notified the union of a desire to negotiate for a revision in the existing rates of pay; no agreement was reached, and the question was submitted for arbitration. The board concluded that certain rates should be readjusted and brought into line with others. The union held that a pay reduction amounting to a general wage cut of 10 to 20 per cent was being introduced in the disguise of a readjustment. Strikes were therefore voted in the three States mentioned. Although the international union did not authorize the strike, work was stopped. On March 1 the workers voted to end the protest and abide by the award of the arbitration tribunal while at the same time using every legal means to have the decision set aside.

Truckers' Strike.—Workers in the trucking industry of New York City and its environs went on strike Sept. 15 in an effort to obtain a shorter work week. Although the workers were not successful in having hours reduced from 47 to 40 per week, the dispute was brought to a conclusion with acceptance of a 44-hour schedule at the same rate of pay formerly received for 47 hours of work. The history of the dispute is briefly as follows: the strike started on Sept. 15, was interrupted by a four-day truce from Sept. 22–26, and was settled by agreements signed Sept. 28 and Oct. 3. During the truce an effort was made to obtain an agreement to replace the one which expired Aug. 31 and to provide for shorter hours at no reduction in pay. When negotiations failed the teamsters' union authorized a strike among local and long-distance trucking employees in New York City and in nearby New Jersey. Agreements were finally entered into by the union for local and long distance truckers separately. The strike was practically over when a supplementary agreement was negotiated, granting drivers employed by the Associated Express and Truck Owners of New Jersey, Inc., a wage increase of $4 a week.

Department-Store Strikes.—A significant and protracted strike occurred among department store employees in San Francisco. It was called Sept. 7 and was settled by agreement Nov. 1. Workers in the stores affected had a union agreement with employers which expired Aug. 1. In June negotiations were commenced for a new agreement into which labor sought to have written certain new provisions on methods of hiring and seniority. Pending a settlement the existing agreement was extended a month but when that period expired and no agreement had been reached a strike was called. The stores involved employed 7,000 to 8,000 workers and, although operation was maintained throughout the strike, efficiency was impaired. The outcome of the strike was favorable to labor. Even though the workers were not successful in obtaining all of their demands, the terms of the earlier collective agreement were maintained and some new provisions on seniority were added. This case is of particular interest because of the solidarity evidenced by a fairly large group of workers in an occupation where trade unionism is not general.

LABOR ORGANIZATIONS

In November, at a general convention held in Pittsburgh, the C.I.O., without altering its initials, was changed from the Committee on Industrial Organization, recognized as temporary in character, to the Congress on Industrial Organization, with a structural framework not very dissimilar from the A. F. of L. The breach between the C.I.O. and the A. F. of L. continued. At the Houston convention of the A. F. of L. and at the Pittsburgh convention of the C.I.O. the matter was discussed, chiefly as a result of communications received from President Roosevelt urging harmony in the labor movement, but no tangible results were attained. Each organization claims a membership in the neighborhood of 4,000,000. With the railroad brotherhoods and a few other unaffiliated unions, the total present strength of the American labor movement is now far in excess of that in predepression days. The N.R.A. and the National Labor Relations Act were, no doubt, largely responsible for this development of trade unionism, accompanied as they were by a growing belief on the part of employers and the public that collective bargaining is desirable. This attitude was well reflected in the report of the special commission, appointed under the auspices of the President, which made a report on industrial relations in Great Britain and Sweden based on personal visits and observations. The commission consisted of representatives of employers, employees and the public. Its unanimous report found that the wide extension of collective bargaining in the two countries mentioned had been a stabilizing force in industrial relations and economic development.

HOUSING

Construction Expansion.—The movement to expand the volume of construction as a means of providing low-cost housing and restoring building trades workers to jobs gained impetus in 1938. During the first nine months of the year estimates of the U. S. Bureau of Labor Statistics show that 197,000 dwelling units were being erected in new buildings in the urban areas. This total, based on building permits issued, was about 18 per cent above that for the corresponding period in 1937 and compares favorably with the total of 211,000 units for which permits were issued in the calendar year 1937. However, the volume of new construction remained relatively low as compared with predepression periods. It is estimated that about 16,000,000 new dwellings should be available by 1950. Recognizing that private industry can not supply adequate housing for all families now living in overcrowded or substandard dwellings, the Federal Government has intiated a program whereby the Federal and local governments undertake to rehouse families in the lowest income brackets who can not afford to pay economic rents, and private industry supplies the remaining needs.

Insured Loans.—The National Housing Act of 1934, under which the Federal Housing Administration insures mortgage loans on residential buildings, was liberalized in 1938. Loans up to 90 per cent of the value of dwellings may be secured on units costing $6,000 or less and until July 1, 1939 mortgages on houses of this value may be paid up in 25 instead of 20 years. As drawn the law seeks particularly to encourage low-cost housing. In December, 1938 the President authorized the Federal Housing Administration to increase the volume of mortgage insurance from $2,000,000,000 to $3,000,000,000 under the powers delegated to him under the law. As of Dec. 1 the total in outstanding commitments for insured loans amounted to $1,585,000,000. Mortgages on over 300,000 small homes had been insured and placed on a premium-paying basis under the system.

Local Government Housing.—Public housing entered a new phase with enactment of the United States Housing Act of 1937 under which the United States Housing Authority makes loans not to exceed 90 per cent of the cost of projects to public housing agencies in the States to assist in the development, acquisition and administration of low-rent housing or slum-clearance projects. Annual contributions are also made to keep rents of the dwellings erected within the reach of families for whom they are intended. Allocation of practically all the loan funds available to the United States Housing Authority was completed in 1938. Funds were earmarked for 155 communities in 29 States, the District of Columbia, Hawaii and Puerto Rico. In slightly over a year, the number of local housing authorities increased from 46 to 221. As negotiations for governmental aid to housing must be carried on between the Federal Government and a duly constituted local housing body, meeting the conditions established by the Federal Government, it is significant that 31 States have now created such bodies to carry on slum-clearance programs.

Private Building.—Private industry made increasing use of Government insured mortgage loans. Small developments for sale, consisting of a score or more small houses, were completed in various parts of the country. Many of them are fully equipped with modern kitchen appliances, screens and automatic heat, and some have garages. As the sale price per unit of lower-cost dwellings is from slightly under $4,000 to $6,000 and the insured loans are for 90 per cent amortized over 25 years, the initial payment and monthly charges are relatively low. Some of the apartment houses having insured mortgages are of the walk-up type built on cheap land in suburban areas. Industry has experimented in lowering costs through new financing arrangements and the use of new materials or old materials in new ways. Builders have carried on research in prefabricating parts, plywood and steel construction and mass production methods of assembly at the site of construction. Increasing attention was given to house plans combining economy of construction and comfort.

Government-built Housing.—The Federal housing program was launched with the construction of demonstration projects for which the Federal Government let its own contracts. This method of supplying dwellings has since been abandoned, leaving the actual construction of dwellings to other agencies. About 50 projects were built by the Public Works Administration and a larger number by the Resettlement Administration. The P.W.A. projects were tenanted, for the most part in 1938, at shelter rents ranging from $2.40 to something under $7 per room per month. The building program of the Resettlement Administration is being completed by the Farm Security Administration. During 1938 many of these projects were completed and occupied.

DEVELOPMENT OF SOCIAL SECURITY

Coverage Expansion.—Continued extension of coverage of the social-security system took place in 1938. All of the States and territories were already participating in unemployment insurance at the end of 1937. The one State—Virginia—that had remained outside the old-age assistance program became a participant during 1938, giving complete territorial coverage in that field also. During 1938 two additional jurisdictions adopted aid for the blind and for dependent children, so that at the end of the year these classes of needy were being cared for in 40 States, District of Columbia, and Hawaii. Old-age insurance, being an entirely Federal matter, needed no action by the States. Altogether some 2,500,000 persons were being aided at the end of 1938 by cash allowances from Federal, state, and local funds, under the programs of old-age assistance, aid to blind, and aid to dependent children. During the three years since the system went into effect the sum of $1,000,000,000 has been spent for their care. In September, 1938, the latest month for which figures are available, old-age assistance payments averaged $19.21 per person per month, aid to blind $23.36, and aid to dependent children $31.72 per family.

Unemployment benefits were being paid at the end of 1938 in 31 States; in 18 others payment began in January, 1939; and after July, 1939 all the jurisdictions will be paying benefits. Up to Nov. 30, 1938 benefits already paid in 29 States to some 3,500,000 unemployed workers amounted to $368,000,000.

Aid to the Blind.—This program involves Federal aid (up to $30 per month per person) to state plans for aid of persons permanently blind. A beginning had been made in aid to blind in various parts of the country before the Federal program went into effect. But whereas only 28 States had blind-assistance acts in operation at the end of 1935 and were helping slightly over 35,000 persons, by the end of June, 1938 nearly 39,000 were receiving allowances in 37 States, Hawaii and the District of Columbia.

Old-age Assistance.—The Federal act speeded enormously the expansion of care of the needy aged in the United States. From the time of the first effective act—that of Alaska, in 1915—until 1930, only 7 States had acted in this field. As application of most of the early acts were optional with the counties, progress was very slow. Later acts were largely of the compulsory type, and by the end of 1935 (the last year under the old system) 41 States had old-age pension acts on the books and in 32 the act was in effect. However, only about 409,000 persons were receiving benefits even then, in a total sum for 1935 of about $65,000,000. By the end of 1936 there were 42 States paying old-age allowances to 1,104,000 persons at a cost for the year of nearly $136,000,000. By the end of 1937 all but one (Virginia) of the States had adopted the system and were caring for 1,582,000 persons, spending for the purpose nearly $311,000,000. At the end of 1938, as already noted, every State in the union was participating in the program for old-age assistance.

Old-age Insurance.—During 1938 the number of insurance accounts increased by nearly $500,000 a month. At the end of the year more than 42,000,000 accounts were on the books of the Federal Social Security Board. This plan does not, under present provisions, go into full effect until Jan. 1, 1942. In the meantime the only payments being made are lump sums payable to contributors reaching the age of 65 years. Such claims were being paid at the rate of about 15,000 a month at the end of 1938, and the total amount that had been disbursed was about $11,000,000.

LABOR LEGISLATION (FEDERAL)

The 75th Congress convened Jan. 3 and adjourned June 16. Approximately one-third of the States held legislative sessions during the year. The volume of labor legislation was not large, but several laws of far-reaching importance to labor were enacted.

Wage and Hour Law.—The most important Federal measure enacted was the Fair Labor Standards Act of 1938. This law provides minimum working standards for workers engaged in interstate commerce or in the production of goods for interstate commerce. During the first year of operation, the work week without payment of overtime may not exceed 44 hours per week and the rate of pay may not fall below 25 cents an hour. The maximum standard work week will be reduced to 42 hours in the second year and to 40 hours thereafter. Work in excess of the prescribed hours must be compensated at not less than one and one-half times the regular rate at which the worker is employed. Minimum wages will increase from 25 cents during the first year to 30 cents for the following six years. At the end of seven years the minimum hourly wage will be increased to 40 cents or such rate, not less than 30 cents an hour, as may be prescribed by the administrator upon the recommendations of special tri-partite industry committees.

Lower rates of pay than those specified may be prescribed for learners, apprentices, messengers, and for persons whose earning capacity is impaired by age, physical or mental deficiency, or injury. Certain industries and occupations are exempt from coverage under the law. The minimum age requirement is 16 years for employment in all occupations, with the exception of (1) children working for their parents in nonmining or nonmanufacturing occupations, (2) children between 14 and 16 in nonmining and nonmanufacturing occupations outside school hours and under conditions held not to interfere with their health and well being, and (3) minors between 16 and 18 years of age in occupations determined to be hazardous or detrimental to their welfare, in which case an 18-year minimum applies. Administration of the law is vested in the newly created Wage and Hour Division of the U.S. Department of Labor. The Children's Bureau of the same Department enforces the child-labor provisions.

Maritime Laws.—Several acts were passed affecting maritime labor. By an amendment to the Merchant Marine Act of 1936, the Federal Maritime Labor Board was established to aid in the settlement of disputes between maritime employers and employees. Membership of the Board is made up of three persons among whose duties is the preparation of a report by March 1, 1940, making recommendations for a permanent Federal policy for the stabilization of maritime labor relations. The primary function of this body is to encourage all maritime employers, their officers and agents, and employees to bargain collectively and endeavor to settle disputes amicably. The Board may mediate either upon request of the parties to a dispute or may proffer its services. If mediation fails the Board is required to use its best efforts to secure the assent of both parties to arbitration of the dispute. Another act provided an 8-hour day for employees on certain vessels plying the Great Lakes and adjacent water.

Social Security.—The Railroad Unemployment Insurance Act is designed to meet the special needs of the railroad industry. Contributions to cover benefit payments are made exclusively by the carriers at the rate of 3 per cent of the employee's compensation not in excess of $300 per month. Employees are eligible for benefit for each day of unemployment in excess of seven during any half month after June 30, 1939. The rate of daily benefit is graduated from $1.75 to $3.00, depending upon the total compensation of the employee affected. The maximum benefit in any benefit year may not exceed 80 times the daily benefit payable to such employee. Administration of the act is vested in the Railroad Retirement Board.

Relief.—The Work Relief Act of 1938 made appropriations for work and general relief and the increase of employment by loans and grants for public work projects. In Title I, relating to relief, an appropriation of $1,712,905,000 was made, of which $1,425,000,000 was allotted to the Works Progress Administration. Under Title II the appropriation was $965,000,000 for various state projects and the construction and leasing of projects. In addition, $400,000,000 was authorized to be raised by sales of securities for further loans. The amount authorized for the 3-year program to acquire sites and construct public buildings was raised from $70,000,000 to $130,000,000 under Title III, and $25,000,000 was appropriated for this purpose. The Federal Emergency Administration of Public Works was continued until July 1, 1941.

Other Enactments.—Legislation was enacted affecting Federal employees, including amendments to the Civil Service Retirement Act and extension of the merit system to certain classes of postmasters. By Executive order all employees of the Federal Government must be selected on the basis of merit after Feb. 1, 1939. Employees in the District of Columbia will, in the future, be able to secure a reasonable and speedy settlement of claims not exceeding $50 through the facilities of a small claims and conciliation branch of the municipal court established by law during 1938. Display of any device designed to intimidate or coerce any foreign government within 500 feet of any building occupied officially in the District of Columbia was prohibited. Picketing in *bona fide* labor disputes arising in connection with the repair or construction of buildings occupied for business purposes by representatives of foreign countries was exempted.

Under the terms of the revised National Bankruptcy Act, labor unions or employees' associations are granted the right to be heard in any plan of reorganization of corporations affecting the interests of the employees.

Congress included labor provisions in the legislation creating the Civil Aeronautics Authority and in providing for awards of experimental air-mail service contracts.

INDUSTRIAL RELATIONS IN STATE LEGISLATION

Legislation was enacted in several States to give protection to employees engaged in strikes. Peace officers in Kentucky were forbidden to receive compensation from private persons or corporations. Another act in the same State established qualifications for deputy sheriffs and other nonelective peace officers and prohibits the appointment of an officer who is not a citizen of the United States or who has, within two years, acted as a detective or guard in a labor dispute.

The New York Legislature provided for the licensing and regulation of private detectives and forbade them to act as strikebreakers or labor spies. Participation in a lynching was declared a crime but the law does not cover violence occurring during picketing or boycotting incidental to a labor dispute. In Rhode Island, use of tear gas by private persons or corporations during strikes or lock-outs was prohibited.

By an amendment of the law of Massachusetts relating to the Board of Conciliation and Arbitration, the Board was given jurisdiction over disputes involving any employer instead of those having 25 or more employees. The Puerto Rican arbitration law was amended to provide that after employers and employees have submitted their differences to arbitration the collective agreement or decision made in their case is binding.

Other enactments include the law of Louisiana forbidding employers to interfere with employee participation in politics; that of New York requiring approval of the state Board of Standards and Appeals for the use, in certificates of incorporation, of such names as "Industrial Union," "Local Industrial Union," etc.; the South Carolina law affecting employees who rent houses from employers whereby only 50 per cent of the employee's weekly earnings may be deducted to cover arrears in rent resulting from illness or other unavoidable causes; and the labor relations act of Puerto Rico whereby employees are guaranteed the rights of self-organization and collective bargaining.

At the national election of Nov. 8, 1938, the people of Oregon approved an initiative petition which regulates the rights of employees in labor controversies. Measures of a somewhat similar nature were proposed but defeated by the electorate in California and Washington. The new Oregon law prohibits picketing in controversies which are not strictly within the purview of the term "labor dispute." A "labor dispute," as defined by the act, includes only an actual *bona fide* controversy concerning matters directly pertaining to wages, hours, or working conditions of the employees of a particular employer directly involved in the controversy, and the dispute must be between an employer and the majority of his employees. Picketing is permitted whenever a *bona fide* labor dispute exists, but limitations have been placed on this right in certain cases, and boycotting of any employer not directly involved is prohibited.

HOURS OF LABOR IN STATE LEGISLATION

In South Carolina a comprehensive law was enacted regulating the hours of labor of men, women, and minors. The hours of labor of all employees of mercantile establishments, public eating places, laundries, dry-cleaning establishments, bakeries, mines, quarries, and other manufacturing establishments are now limited to 56 a week and 12 a day. There are numerous exceptions, such as cotton, silk, rayon, and woolen mills, certain occupations in small towns and rural areas, and agricultural labor. The hours of labor of female employees are limited to 40 a week in garment factories, and to 48 in finishing, dyeing, and bleaching plants; these limitations, however, will become inoperative on May 1, 1939 unless the Congress of the United States enacts similar laws. The act also prohibits the employment of minors under 18 between 10 p.m. and 6 a.m., and limits the hours of labor of drivers of motor trucks to eight consecutive driving hours in any 24-hour period, and to 60 driving hours in any period of seven consecutive days. The 1936 act, establishing an 8-hour day and 40-hour week for workers in certain textile mills to be effective when similar legislation was enacted in Georgia and North Carolina, was amended so as to make the act immediately effective. However, it will become inoperative on May 1, 1939 unless similar legislation has been enacted by Congress. The amendment exempts a number of employees including office workers, engineers, firemen, mechanics, and outside crews.

In Louisiana an act was passed providing that no woman may be employed in any manufacturing, mechanical, mercantile, telegraph, or telephone establishment, or by an express or transportation company, or in a laundry, hotel, or restaurant, more than eight hours a day, or six days, or 48 hours a week. The act also prohibits the employment of women more than six consecutive hours without a rest period of at least 45 minutes, unless the employment ends at half past one in the afternoon. Girls under 18 may not work between 6 p.m. and 7 a.m. Women engaged in agriculture, canning, domestic service, the fishing industry, and those employed by certain public utilities, or by ferry companies in cities of over 400,000 population, are exempt from the provisions of the law.

Two laws were enacted by the Massachusetts Legislature relating to the hours of labor of women and minors. The provisions of the code relating to the allowance of time for meals was amended so as to provide that exemptions may be granted at the discretion of the commissioner of labor and industries. Heretofore the labor department could grant exemptions only with the consent of the Governor. The suspension of the law prohibiting the employment of women in the manufacture of textile goods after 6 p.m. was continued until April 1, 1939.

In New Jersey the law prohibiting the employment of women before 7 a.m. or after 12 p.m. no longer applies to restaurant employees. In New York the employment of women and minors in beauty shops has now been regulated by the legislature. In Virginia the hours of labor of women are limited to nine a day and 48 a week, instead of 10 a day as formerly; in addition to the exemptions listed in the original law, the amendatory legislation lists certain other exempted employments.

WAGES IN STATE LEGISLATION

Minimum-wage laws were passed in 1938 in Kentucky and Louisiana. In Kansas a former minimum wage law was revived, and in Massachusetts the minimum wage law was strengthened. There are now 25 States, the

District of Columbia, and Puerto Rico having minimum wage legislation.

A comprehensive wage-payment law was enacted in South Carolina which requires that an employer must notify each employee in writing of the rate of pay, etc. The act also specifies when the wages must be paid upon termination of employment, and contains provisions for the collection of unpaid wages.

In New York the state comptroller is now authorized to require that bonds guaranteeing prompt payment of moneys due workmen and material men, be furnished by contractors on public improvements. The Rhode Island law relating to contractors' bonds on public works was amended by providing that a bond to assure the payment of wages must be given in connection with all contracts for the construction, improvement, or repair of public buildings.

Three States legislated on garnishment of wages. By an amendment adopted in Massachusetts, money or credits due for wages may be attached only if a written authorization is secured in advance from a justice of the court in which the action is commenced. In New Jersey it is now provided that executions against wages must be satisfied in the order in which they are presented to the person from whom such wages are due. The amount of an execution may not exceed 10 per cent of the wages unless the income of the debtor is more than $2,500. The Virginia law relating to garnishment was amended so as to exempt 75 per cent of the wages. The exemption may not be less than $50 nor more than $75. Formerly the exemption was limited to $50.

The Massachusetts law requiring the payment of minimum wages on public works now covers both permanent and temporary employees. The provisions of the New York labor law relating to the procedure for a laborer on public works to recover the difference between the wages paid and the prevailing wages, was amended by defining the words "verified complaint" to include a verified demand or verified notice of claim filed in accordance with local laws or ordinances. In Massachusetts every employer making deductions from the wages of employees for social-security benefits must, upon request, advise the employees of the amount and nature of the deductions.

COURT DECISIONS OF INTEREST TO LABOR

Utilities.—A decision of the U.S. Supreme Court in the latter part of 1938 held that the National Labor Relations Board did not have power to invalidate a contract between the Consolidated Edison Company of New York and the International Brotherhood of Electrical Workers, an affiliate of the American Federation of Labor. At the same time, however, and possibly of very far-reaching importance, the Court held that a public utility company primarily engaged in furnishing electricity to residents of a city was engaged in interstate commerce.

Mr. Chief Justice Hughes, in delivering the opinion of the Court, pointed out that, although the companies supply 3,500,000 customers in New York City and adjoining Westchester County with electrical power, it did not necessarily follow, that, while these operations of the utilities were of such concern to the people of New York, they did not involve also interstate and foreign commerce to such a degree that the Federal Government was entitled to intervene. In support of this view the Court observed that the Edison Co. and its subsidiaries supplied electricity to the major railroads operating out of New York, to the Port of New York Authority, the Holland Tunnel, various steamship piers, telegraph and radio corporations, and to Government agencies, including the postoffice. As to this, the Court said that "it cannot be doubted that these activities, while conducted within the State, are matters of Federal concern. In their totality they rise to such a degree of importance that the fact that they involve but a small part of the entire service rendered by the utilities in their extensive business is immaterial in the consideration of the existence of the Federal protective power."

Unfair Labor Practices.—In an earlier case decided on March 28, 1938, the Supreme Court held that the National Labor Relations Board had jurisdiction in a case involving unfair labor practices in labor relations at the Oakland, Calif. plant of a fruit-packing corporation, although the company's interstate business amounted to only 37 per cent of its production. The Court, in considering the case, stated that the company undoubtedly was directly and largely engaged in interstate and foreign commerce. It was pointed out that the power of Congress extends not only to the making of rules governing the sale of products in interstate commerce or with respect to price discriminations, but also to the protection of interstate commerce from burdens, obstructions, and interruptions, whatever may be their source.

In two decisions rendered in January, 1938 the Supreme Court held that a Federal district court could not enjoin the National Labor Relations Board from holding hearings on charges of unfair labor practices brought against an employer. The cases related to controversies at the plants of the Bethlehem Shipbuilding Corporation and the Newport News Shipbuilding and Dry Dock Company. Mr. Justice Brandeis, who delivered the opinion of the Court in both cases, declared that the district court had no authority to enjoin hearings, because Congress has declared that the power to prevent any person from engaging in any unfair practice affecting commerce shall be vested in the National Labor Relations Board and the Circuit Court of Appeals.

In a later case involving the National Labor Relations Act, the Supreme Court upheld an order of the Board to compel the withdrawal of recognition from labor organizations found by the Board to be dominated by the Pennsylvania Greyhound Lines and the Pacific Greyhound Lines. In another case decided on May 16, 1938, the Court upheld the procedure followed by the National Labor Relations Board, in ordering the reinstatement of five strikers, and declared that an employee who goes out on a strike does not thereby lose his status as an employee.

Picketing.—A very important case involving picketing was decided by the Supreme Court in the early part of 1938. The Court in this case reversed a lower court which held that picketing did not constitute a labor dispute under the Wisconsin or Federal anti-injunction law. The case arose in Milwaukee and concerned an employer who sought to enjoin picketing by a labor union for the purpose of coercing him to adopt a closed shop and to accept the union as the bargaining agency of the employees. It was held that the lower court was bound by the ruling of the Supreme Court of the State which held "a controversy indistinguishable from that here disclosed to be a labor dispute within the meaning of the statute." The Court was also of the opinion that the district court erred in granting an injunction in the absence of findings which the Federal anti-injunction law makes prerequisites to the exercise of jurisdiction.

Another case involving picketing was that of the *New Negro Alliance v. Sanitary Grocery Company*. The Supreme Court in this case held that an injunction may not be granted to prevent the picketing of a store by colored persons for the purpose of inducing the company to employ colored help. Such a controversy, the Court held, involved a "labor dispute" within the meaning of the Norris-LaGuardia Act.

Working Hours.—The Supreme Court of Montana held that the act of the State fixing eight hours as a day's work for retail employees in certain cities is constitutional. This law, enacted in 1933, provides that a period of eight hours constitutes a day's work, and a period of not to exceed 48 hours a week's work, in all cities and towns having a population of 2,500 or over, for all persons employed in retail stores.

In Pennsylvania the state 44-hour law of 1937 was held unconstitutional by the State Supreme Court. The law referred to limited the hours of labor to 44 a week, or eight per day and the working week to 5½ days. It did not apply to agricultural labor, to domestic servants in private homes, nor to persons over 21 years of age earning $25 a week or more in executive positions or in the professions. The Court held that the law was unconstitutional because it delegated to the department of labor and industry the power to make laws for the regulation of hours of labor, and attempted to give to Federal authority the power to regulate working conditions in Pennsylvania. The adverse decision does not affect the 44-hour law relating to employment of women.

Sunday Closing.—A decision handed down in California upheld the right of labor unions to picket peacefully for the purpose of compelling a store to close on Sunday. The case arose in connection with operation of a small store having a paid employee only occasionally and having no union agreement. The owners were requested to close on Sunday and refused. Thereafter the store was picketed and the owners obtained an injunction forbidding picketing. When the case was brought before the higher court, the right of picketing was upheld on the grounds that no statute in California either prohibits or permits peaceful picketing. In upholding the right of the union to picket, the court based its decision on the constitutional guaranty of freedom of speech and held that the act of picketing was, in effect, a secondary boycott.

Collective Bargaining.— An order of the National Labor Relations Board directing reinstatement of striking employees, was not enforceable, according to a decision of the United States Circuit Court of Appeals for the Seventh Circuit, where the employees struck in violation of an agreement made prior to the enactment of the National Labor Relations Act. This agreement provided for submission of differences to arbitration and forbade a stoppage of work pending a decision. When arbitration of a demand for a closed shop was refused by the company, on the ground that the demand was not included in the contract, a strike was called. The National Labor Relations Board ordered reinstatement on the ground that the employer committed an unfair practice in refusing to bargain collectively after enactment of the law. The court held that reasonable contracts are a protection to capital and labor and should be respected by both parties, that the strikers had lost their status as employees, and had no standing in a court of equity to ask relief in face of their breach of an agreement.

RATIFICATION OF INTERNATIONAL MARITIME CONVENTIONS

The first international labor conventions or treaties ratified by the United States since this country joined the International Labor Organization in 1935 were approved by the Senate in 1938. In all, five conventions were officially endorsed by the Senate. They deal with safety at sea and are intended to provide better working conditions and greater protection for seamen over whose employment the Federal Government has exclusive jurisdiction in the United States.

These draft conventions were adopted at the martime sessions of the International Labor Conference of 1936, at which the United States was represented by two Government delegates, one representative of American shipowners and a represenative of American maritime labor. The conventions approved deal with (1) holidays with pay for seamen; (2) minimum age for employment of children at sea; (3) hours of work on board ship, and manning; (4) minimum requirements of professional capacity for masters and officers on board merchant ships; (5) liability of the shipowner in case of sickness, injury, or death of seamen.

No positive action was taken in three other proposed conventions dealing, respectively, with sickness insurance for seamen, the promotion of seamen's welfare in ports, and hours of work on board and the manning of coastwise ships.

In ratifying conventions, the Senate limited the scope of certain of them to the high seas and excluded the Philippine Islands and the Panama Canal Zone from the application of all the conventions. All of the conventions must be approved by a specified but varying minimum number of countries before going into effect.

SURVEYS AND INVESTIGATIONS AFFECTING THE STATUS OF LABOR

The year 1938 was marked by noteworthy progress toward completing the special surveys under way for some time by the U.S. Bureau of Labor Statistics, the U.S. Bureau of Home Economics, and other cooperating agencies of cost of living and of family income and expenditures. These surveys are designed to enable the Bureau of Labor Statistics to improve and extend its cost-of-living statistics and to afford more adequate information than has heretofore been available regarding income and expenditures and their relations to the national economy. A noteworthy result of the surveys in relation to the study of income was the publication during the year of a volume on *Consumer Incomes in the United States: Their Distribution in 1935–36,* by the National Resources Committee.

A special investigation having important implications for labor was initiated in 1938 by the Temporary National Economic Committee. This Committee consists of six members of Congress, representing both the Senate and the House of Representatives, and six persons from executive departments of the Government. The first meetings of the Committee, Dec. 1–3, outlined the problems and the proposed general lines of inquiry. The message of the President suggesting the creation of the Committee, the joint resolution of Congress creating the Committee, and the early hearings all indicate in many respects a novel departure in governmental investigations. It is proposed by the chairman of the Committee, Senator O'Mahoney, and by the other members of the Committee, to undertake a thorough inquiry into the nature of the national economy, the causes of its admittedly faulty operation, and the most practicable modes of remedying its deficiencies. Particular emphasis was placed in the early hearings on the problem of unemployment, not only of labor but of productive resources generally, entailing substandard living conditions for a large part of the working population. It became apparent that the intent of the Committee was primarily to obtain information necessary for a solution of the problem of unemployment and inadequate employment.

EMPLOYMENT CONDITIONS

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FLUCTUATIONS AND TRENDS

The decline in employment which began in September, 1937 continued, though less precipitously, through the first six months of 1938. By June, 1938 employment in factories had been reduced by 2,100,000, or one-fourth, and payrolls by $72,000,000 or one-third as compared with the same month in 1937 when employment was near the recovery peak level. A seasonal decline in employment is normal in January but the 1938 drop for that month was pronounced, being exceeded in only one January (1921) in the past 18 years for which data are available. In the early spring months, employment did not respond in the customary manner to seasonal influences. In July, however, an upturn in employment began, followed in August by an increase in payrolls. In August and September, the employment increases over preceding months were greater than the usual seasonal gains. By October, 1938, the factory employment index, although still 17 per cent below that of October, 1937, had risen about 9 per cent above the June, 1938 level. The sharp decline in payrolls relative to employment early in 1938 reflected both part-time employment and wage reductions. As compared with the low point reached in 1932, however, payrolls were sustained much better than employment, owing to the marked general increases in wage rates from 1934 to 1937.

The Federal Reserve Board index of industrial production in manufacturing industries for the first six months of 1938 (adjusted for seasonal variations) showed a severe decline from the same period in 1937, standing at 75 as compared with 116 in 1937 (1923–25=100). By October, 1938, however, the index had risen to 95; there was a further advance in November and preliminary indications pointed to a level of 100 in December, 1938.

INDEXES OF EMPLOYMENT, 1936–38

(1923–25 = 100)

	All Manufacturing	Durable Goods Group	Non-Durable Goods Group
1936 average	97.6	91.5	103.8
1937 average	105.8	104.0	107.6
1938			
January	87.8	81.7	93.7
February	88.2	80.1	95.9
March	87.7	79.3	95.8
April	85.7	77.0	94.0
May	83.4	75.0	91.5
June	81.6	72.4	90.3
July	81.9	70.3	92.9
August	85.7	71.8	99.0
September	88.8	75.3	101.6
October*	89.5	79.0	99.4

* Preliminary

The tabulation below (left), derived from United States Bureau of Labor Statistics figures, reflects both seasonal and non-seasonal fluctuations. The factory employment and payroll indexes of the Bureau of Labor Statistics were adjusted during the year to the 1935 Census of Manufactures. Moreover, employment in railroad repair shops was eliminated from the series on factory employment. Thus the 1938 statistics are not strictly comparable to those published in earlier volumes of THE AMERICAN YEAR BOOK.

The employment decline from the 1937 average was marked in the durable goods industries in the first six months of 1938, as is indicated in the tabular summary. The sharpest decline from the peak of July, 1938, 58 per cent, was experienced in railroad carbuilding shops. Employment in the automobile industry also declined sharply in the first half of the year, with automobile assemblies during the first five months at about 1,000,000 units, as compared with over 2,250,000 units in the same period in 1937. An employment increase in August in the durable goods group was the first such increase in 10 months. The non-durable goods group showed a less precipitous employment decline during the year than durable goods, as is customary in this type of manufacture.

In general, the impact of the recession was directed particularly against goods whose purchase can be most conveniently postponed by consumers, an expected outcome of the sharp drop in employment which began to affect consumer demand in the spring. There was a considerable variation in experience from industry to industry. Only small contractions in employment were noted in lumber and stone, glass and clay products. In non-durable goods, employment in the rubber tires and tubes and textile industries was severely affected. Food, tobacco and paper products were fairly well sustained. By August, a more than seasonal advance in factory production was noticeable. Gains in employment, while small, were contraseasonal in the late summer, and were most marked in the non-durable goods group. In the fall, a change in employment trends occurred, with more pronounced gains (after adjustment for seasonal variations) in the durable goods groups and a slighter gain, hardly more than the accustomed seasonal increase, in non-durable goods employment. In October, 1938, 35 of the 43 industries in the durable goods classification reported employment increases, among them being automobiles (a seasonal upturn), steel electrical machinery, hardware and glass.

The drop in all nonagricultural employment from September, 1937 to June, 1938 was estimated to be over 3,300,000. After the general improvement in midsummer, the total number employed was still nearly 9 per cent lower than in 1938. In August, 1938, the number at work was 32,000,000, as compared with the peak of 37,000,000 in 1929, the low of 25,700,000 in March, 1933, and the recovery high point of 35,100,000 in September, 1937. In September, 1938, the number employed was 2,700.000 less than in September, 1937.

INDEXES FOR SELECTED INDUSTRIAL GROUPS

(U. S. Bureau of Labor Statistics)

Industry Group	Indexes of Employment (1923–25 = 100)		
	October 1938 (Preliminary)	September 1938	October 1937
Durable goods	79.0	75.3	106.6
Non-durable goods	99.4	101.6	107.8
Selected durable goods industries:			
Iron and steel	84.2	81.7	113.2
Machinery	87.2	85.5	128.7
Electrical equipment	80.6	77.4	119.4
Automobiles	85.9	64.9	134.0
Stone, clay and glass products	70.1	67.8	82.0
Agricultural implements	94.1	90.6	181.3
Lumber and allied products	65.9	65.9	77.7
Selected non-durable goods industries:			
Textiles	97.6	97.9	104.5
Food products	128.5	142.7	133.2
Leather products	89.6	92.2	93.4
Tobacco manufactures	66.3	66.3	67.1
Chemicals and petroleum refining	113.4	113.0	128.5
Papers and printing	105.3	104.3	113.3
Rubber products	77.7	75.9	97.1

EMPLOYMENT IN MINING

Indexes of employment in mining are presented in the table below (1929 = 100). The index for 1938 covers the first ten months. The coal mining indexes have been adjusted to the 1935 Census of Manufactures. In metalliferous mines there were marked layoffs in February, continuing the recession which had begun in October, 1937, and employment reductions continued in April, May and June. In July there was a greater than seasonal employment decline, about 11 per cent of the force being laid off. In August and September, metalliferous mining responded to increased demand and rising prices of metals and there was an increase in employment. Employment reductions also occurred in coal mining throughout the spring, culminating in a 20 per cent decline in anthracite mining employment in July. In August there was a further employment reduction in anthracite mine employment, owing in part to strikes, but an upturn began in September. About 71,000,000 less tons of bituminous coal were mined in the first six months of 1938 than in the corresponding period of 1937, and employment averaged about 11 per cent less. Production was only slightly greater than in 1932, but employment was considerable greater than in the first half of that year. The numbers employed in bituminous mining in the first six months of 1929, 1932, 1937 and 1938 were, respectively, 466,000, 360,000, 457,000 and 408,000. In September, employment in bituminous mines shared in the increase shown for coal mining in general.

EMPLOYMENT IN MINING

	Employment Index, 1933	Employment Index, 1937	Employment Index, 1938 (10 Months)	Per cent Change September, 1937, September, 1938
Anthracite.....	59.5	60.2	52.6	−20.2
Bituminous....	79.9	99.3	86.3	−16.1
Metalliferous..	34.6	76.8	58.4	−33.6

CONSTRUCTION

The value of construction contracts awarded in the 37 Eastern States (as reported by the F. W. Dodge Corporation) in 1937 was only about 9 per cent greater than that of awards in 1936. In the first ten months of 1938 there was practically no change from the corresponding figure for 1937. Factory construction fell off sharply, but from August onward residential construction and public works and public utilities showed increased value of awards. Publicly-financed construction awards were higher in value than in 1937 in both the spring and fall of 1938, but privately-financed construction awards exceeded those of the preceding year only in September and October, 1938. The Federal Reserve Board index of value of contracts awarded (seasonally adjusted) reached a low point in March, 1938, at 46 (1923–25=100) but by October the preliminary figure stood at 86. Considerable expansion in Federal Housing Administration activity contributed to an increase in residential awards from January to August of 77 per cent (seasonally adjusted), although in this period the level was still 18 per cent lower than in the first seven months of 1937.

Accurate and complete figures on employment in construction are not available. Since employment lags behind the award of contracts, the employment fluctuations reflecting the movements described probably have not yet expended themselves fully. Changes in the Bureau of Labor Statistics index (12-month average 1929 = 100), based on reports from private building contractors, are shown in the accompanying table. Employment gains made in 1937 were not sustained in the corresponding months of 1938. The January, 1938 employment recession was reported to be somewhat larger than in preceding years, while from May to July the seasonal increases were smaller than usual. The August increase in employment was seasonal. Public employment on construction increased during the year, owing largely to WPA employment which was expanded to meet increasing unemployment in private industry. The Public Works Administration grants produced an employment increase of 13,000 from January to July; beginning with the latter month the completion of projects caused a temporary decline in employment. Regular Federal construction projects expanded seasonally throughout the spring and summer, especially in road-building. In June, 1938 there were 222,000 employed on roads, 35,000 more than in June, 1937, and employment increases continued through September.

PER CENT CHANGE IN EMPLOYMENT IN BUILDING CONSTRUCTION
(1938)

	From Preceding Month	From Corresponding Month of 1937
January.......	−14.2	−16.5
February......	− 4.8	−19.8
March........	− 0.9	−22.3
April..........	+ 5.5	−25.4
May..........	+ 3.4	−28.4
June..........	+ 0.2	−30.4
July..........	+ 1.3	−31.8
August........	+ 2.6	−31.6
September.....	− 1.1	−31.9
October.......	+ 2.3	−28.4

RAILROADS

As mentioned in THE AMERICAN YEAR BOOK for 1937, employment on railroads in recent years has been affected by the increasing competition of other means of transportation and by technological improvements which reduced the number of employees required, in addition to cyclical declines. The 1938 recession affected railroad employment severely. There were steady declines in the numbers employed on Class I railroads, from a level of 947,374 in January to 893,000 in June, 1938, the eleventh consecutive month of employment decline. The decline in freight car loadings during the first half of 1938 brought total car loadings to about the level of the corresponding period in 1932. Employment in the first six months of 1938 averaged about 15 to 17 per cent below that of 1932 and 1937 and was only slightly more than half as great as in the same months of 1929. With 1923–25=100, the index of employment in 1933, the year of lowest employment from 1920 to 1937, was 54.4. In 1937, there was an increase in employment to 62.4. In 1938, as shown in the accompanying table, the employment index began to fall below that for corresponding months of 1933. The index is adjusted for seasonal variations.

INDEX OF RAILWAY EMPLOYMENT

(1923–25 = 100)

	1933	1937	1938
January..........	54.9	62.8	56.0
February.........	54.4	63.8	54.6
March...........	52.7	63.4	53.4
April............	52.2	63.8	51.5
May.............	52.0	63.8	50.1
June.............	52.7	64.2	50.1
July.............	54.2	64.1	50.8
August...........	55.6	63.5	51.3
September........	56.7	62.2	...
October..........	56.1	60.8	...
November........	55.5	58.9	...
December........	55.2	57.8	...

AGRICULTURE

The supply of labor available for farming is affected by industrial activity in city areas. From 1933 to 1935 there was a net gain in farm population, owing to decline in employment opportunities in urban areas. The trend was reversed in 1936 and 1937; with the advent of the 1938 recession the flow of population to the cities was abruptly curtailed and there was some movement from the cities to the farms. The United States Bureau of Agricultural Economics reports that, while the decline in employment in nonagricultural areas in the first half of 1938 made more labor available in farm communities, the continued drop in farm prices and income lessened the demand for services of farm hands. The supply of labor available for work on farms was 91.1 per cent of normal on July 1, 1938 as compared with 82.4 per cent on the same date in 1937. The demand for farm labor was calculated at 83.7 per cent of normal as compared with 90.7 per cent on July 1, 1937. The supply of labor, as a percentage of demand, was 108.8 on July 1, 1938 against 90.8 a year earlier.

Technological improvements in agricultural production, as well as depressed farm prices, contribute to the surplus of labor available in farm regions. In the production of corn, which occupies about 30 per cent of the land in crops, the number of hours per acre required declined from an average of 28.7 in 1909–13 to 22.5 in 1932–36, according to studies made by the National Research Project. In the same period the total labor requirements in corn production declined by the equivalent of more than 200,000 full-time workers. The use of tractors in cotton production, although not yet widespread, has already caused labor displacement in the Cotton Belt, leading to elimination of tenant farming and migration of farm labor to other areas.

The United States Bureau of Agricultural Economics published estimated farm employment figures based on reports from farmers. The table following shows number of persons employed per 100 farms, based on reports from about 20,000 farmers.

	(Family and Hired Labor Combined)					
	July 1 1937	Aug. 1 1937	Sept. 1 1937	July 1 1938	Aug. 1 1938	Sept. 1 1938
United States	326	317	316	329	319	315
New England	272	291	280	277	291	272
Middle Atlantic	273	281	272	277	287	276
East North Central	241	248	232	248	242	235
West North Central	239	234	223	237	241	226
South Atlantic	463	427	453	471	432	445
East South Central	475	450	454	481	449	453
West South Central	345	325	338	344	326	321
Mountain	267	270	261	280	271	282
Pacific	453	461	478	429	464	467

PUBLIC UTILITIES, TRADE AND HOTELS

Employment in public utilities is relatively free from major fluctuations although from 1929 to 1935 employment in telephone companies declined by over 100,000, and in the electric light and power industry the average number of employees dropped from 271,796 in 1929 to 227,813 in 1934. The Bureau of Labor Statistics reported increases in employment in the utilities as a group in 1936 and 1937. There were only slight declines, relative to those in other fields, in 1938. On the average, there were almost as many workers employed in electric light and power and manufactured gas production in the first six months of 1938 as in the corresponding period of 1929. Employment in retail trade showed a smaller increase in the spring season than in any of the three preceding years, but improved more than seasonally in September. Wholesale trade employment declined steadily from October, 1937 to September, 1938. Activity in trade in general did not show the abrupt drop experienced in factory production in 1938, following rather the trend of income payments. There was little change in hotel employment in 1938. Changes in the Bureau of Labor Statistics index of employment for these groups (1929 = 100) as compared with the same month in 1937 are shown in the table below:

	(Per Cent Change over Same Month in 1937)				
	January	March	May	July	September
Telephone and telegraph	+4.5	−0.7	−3.5	−6.0	−6.4
Power, light and gas	+2.0	−0.2	−3.1	−5.1	−6.4
Electric railroads and motorbus	−0.3	−2.6	−3.5	−4.5	−5.3
Wholesale trade	+0.2	−3.2	−3.8	−4.4	−5.0
Retail trade	−1.5	−6.2	−6.8	−7.4	−6.6
Hotels	+1.5	−1.1	−1.7	−3.1	−4.0

PUBLIC EMPLOYMENT AND RELIEF WORK

To meet the employment decline beginning in the fall of 1937, the Federal Government resumed its activities in the emergency employment field in the spring of 1938. The recovery program included expansion of WPA operations, resumption of PWA construction, continuation of the CCC, an increase in National Youth Administration expenditures, and additional Federal housing, rural electrification and regular building construction expenditures. The number of WPA workers was increased from about 1,450,000 in September, 1937 to almost 2,800,000 in June, 1938. Increases continued in the next three months, until the exhaustion of appropriations threatened layoffs. More than one-half of the persons added to WPA rolls during the winter of 1937 and the spring of 1938 had not previously held WPA jobs. It was estimated that, from the introduction of the WPA program in the late summer of 1935 to June, 1938, about 6,000,000 different individuals had been employed on WPA projects. Employment in the Civilian Conservation Corps, which had been expanded to 363,000 in October, 1937, was reduced in the first six months of 1938 and was only slightly expanded in the third quarter of the year. The executive, judicial, legislative and military branches of the Federal Government expanded their employment from about 1,147,000 in January, 1938 to 1.216,000 in September, 1938. Expansion in public employment in construction and road building has been described.

VOLUME OF UNEMPLOYMENT

The employment trends summarized in the preceding paragraphs indicate the marked increase in unemployment beginning in October, 1937 and extending through the first six months of 1938. Estimates of unemployment for 1938 continued to be based on the trend of employment, the estimated level of the labor supply and scattered sources of information. The four estimates most commonly quoted, those of the American Federation of Labor, the National Industrial Conference Board, the Alexander Hamilton Institute and Robert Nathan, all showed a steady increase in unemployment from September, 1937 to March, 1938. In the following three months, the estimates showed either slight decreases or approximately the same amount of unemployment as in preceding months. The following table shows the estimates of the American Federation of Labor and the National Industrial Conference Board for selected months:

	American Federation of Labor Estimate	National Industrial Conference Board Estimate
March, 1933.......	15,653,000	15,939,000
March, 1934.......	12,420,000	11,744,000
March, 1935.......	12,608,000	11,929,000
March, 1936.......	12,183,000	10,777,000
March, 1937.......	9,367,000	7,415,000
January, 1938.....	10,926,000	10,907,000
March, 1938.......	11,226,000	11,367,000
September, 1938...	10,539,000	9,918,000*

* Preliminary

The Federal unemployment census taken on Nov. 20, 1937, a voluntary registration by mail of unemployed persons throughout the nation, showed 7,822,912 then unemployed, or, on the basis of an estimated 72 per cent accuracy of the reports, a total of 10,040,000, over 20 per cent of those usually gainfully occupied. A special analysis of the reports in this census, as to occupational status of those without jobs, showed that the heaviest unemployment was occurring among the unskilled. The 1930 census classified only 27 per cent of all employable males as unskilled, whereas the unemployment census showed that 42 per cent of all employable males were unskilled. Among women reporting unemployment, there was a similar preponderance of relatively unskilled workers.

With the inauguration of unemployment benefit payments in 29 States in 1938, the file of those actively seeking work at public employment offices is acquiring more representativeness than formerly. A report by E. D. Hollander and J. F. Wellmeyer, Jr. of the United States Employment Service indicates that the "active file" has tended to fall short of an accurate measure of unemployment because it contains a small number of those employed at time of registration but seeking new jobs; it understates the number of younger workers seeking jobs and the number of unemployed manufacturing workers, and it fails to include an adequate proportion of those temporarily separated from their regular employment. The required registration at public employment offices for benefits is remedying these defects to some extent. In September, 1938, there were 7,968.668 persons registered for work in public employment offices throughout the nation, a 72 per cent increase over the same month of 1937. About 5,800,000 of these registrants were in 29 unemployment benefit-paying States, including all the industrialized States except Illinois, New Jersey and Ohio. Unemployment can not as yet be measured from statistics published by state unemployment compensation administrations. In general, employees in small firms, non-profitmaking institutions, agriculture and government employment are excluded from unemployment compensation coverage and hence from statistics as to number of benefit claims filed. Moreover, the statistics reported to date for 1938 show the number of claims filed in a month rather than the number of individuals filing claims.

CHILD LABOR

By Courtenay Dinwiddie

General Secretary of the National Child Labor Committee

THE FAIR LABOR STANDARDS ACT

The child labor provisions of the Fair Labor Standards or Wages and Hours Act which became effective Oct. 24, 1938, represent the most important advance of the year in the field of child labor control. While establishing higher age standards made possible by changes in public opinion, the new legislation follows closely the principles of the first Federal child labor law enacted in 1916 and declared unconstitutional by the United States Supreme Court in 1918. It is generally believed that, as a result of the more liberal interpretation of "interstate commerce" accepted by the Supreme Court in recent decisions, the new law will stand the test of constitutionality.

Regarding child employment, the Fair Labor Standards Act prohibits the shipment in interstate commerce of goods produced in any establishment in which oppressive child labor has been employed within 30 days prior to such shipment. Oppressive child labor is defined as the employment of persons under the age of 16 in any occupations, and the employment of persons between the ages of 16 and 18 in occupations found and declared hazardous by the Chief of the Children's Bureau in the Department of Labor who is charged with administration of this section of the act.

EXCEPTIONS TO EMPLOYMENT RULES

Exception is made of the employment of children by their parents, or persons standing in the place of parents, in occupations other than mining or manufacturing. Further exemptions may be made by order of the Chief of the Children's Bureau who is empowered to provide by administrative regulation that the employment of persons between the ages of 14 and 16 in occupations other than manufacturing or mining shall not constitute oppressive child labor if confined to periods and conditions which will not interfere with their schooling, health or well-being. Regulations issued immediately after the law went into effect forbade all employment of children under 16 in operating or helping on motor vehicles and in messenger service as well as in manufacturing and mining, but permitted other employment outside of school hours for not more than three hours on any school day or eight hours on any other day.

Another ruling prohibiting night work between the hours of 7 p.m. and 6 a.m. for minors 14 to 16 years of age was temporarily suspended pending a public hearing at which an opportunity is to be provided for assembling more complete information concerning the problems involved and the extent to which employment between these hours interferes with the sleep and general welfare of the children. The suspension was ordered because of representations by certain industries to the effect that the problems created would require additional time for adjustment.

NEWSBOYS

Although Administrator Elmer F. Andrews has announced that newspapers, except those specifically exempted, come under the provisions of the Fair Labor Standards Act, an article in *Editor and Publisher* of Nov. 5 stated that the question of newsboys is still unsettled. The author of the article raised three points: whether newsboys are employees of the publishers whose papers they distribute, whether they operate in interstate commerce, and whether contracts by which newsboys work as "little merchants" or "independent contractors" relieve the publisher of employer-employee responsibilities. However, since the act went into effect most newspapers have discontinued the use of carrier boys under 14 years of age. They estimate that, out of 600,000 carriers, about 60,000 have been affected by this action.

TELEGRAPH MESSENGERS

The Western Union and Postal Telegraph Companies, which together employ approximately 20,000 boys between 16 and 18 years of age as messengers, applied for exemption from the wage provisions of the act which require them to pay messengers a minimum of 25 cents an hour. Hearings were held in New York City and on Nov. 12 the application was denied. In denying the application, Dr. William M. Leiserson, who had been designated to represent the Administrator, pointed out that, although the act authorizes wage reductions for messengers engaged exclusively in handling telegrams and letters, about 15 per cent of the time of the messengers employed by the telegraph companies is devoted to duties other than these.

ENFORCEMENT OF CHILD LABOR PROVISIONS

Enforcement of the child labor provisions of the Fair Labor Standards Act is carried out through a system of employment certificates in the issuance of which state and Federal authorities cooperate. The Children's Bureau has designated 40 States in which certificates of age issued to employed minors have the same force as Federal certificates. The only States in which plans for cooperation in the issuance of certificates had not been completed by Dec. 1, 1938 were Idaho, Iowa, Louisiana, Mississippi, South Carolina, South Dakota, Texas and Wyoming. In these States the Children's Bureau has provided that, temporarily, a birth certificate or record of baptism will be accepted. The Fair Labor Standards Act does not make it mandatory for employees to have certificates of age for their minor employees, but it does provide that if an employer has on file such a certificate he is protected from unintentional violation of the child labor provisions of the law.

EMPLOYMENT IN AGRICULTURE

In the field of commercialized agriculture the effects of the new legislation will probably be slight. Employment of children under 16 in agricultural establishments is barred during the hours of legally required school attendance. However, the child labor and compulsory school attendance laws of agricultural States often exempt children for work on farms. In many, also, the children of migrants, who make up a large proportion of farm laborers, are not required and sometimes not permitted to attend school.

Studies of migrants, including investigation of child labor along the Pacific Coast and on the New Jersey truck farms made during 1938 by the National Child Labor Committee, show that particularly abusive use of children as laborers is widespread on large, commercialized fruit, vegetable and cotton farms. Migratory workers, although absolutely necessary for the production of commercial crops, meet discrimination in the communities into which they move at the harvesting season. Usually they are housed in makeshift, unsanitary camps where overcrowding and complete lack of privacy prevail. They are excluded, either through their own ignorance or through local regulation, from the health and other social services from which residents benefit.

Migratory children work alongside their parents, putting in long hours at tasks which involve repetitive processes unsuitable for undeveloped muscles, and which are carried on under conditions often hazardous as well as exhausting. Their education suffers both as a result of their work in the fields and the reluctance of local authorities to admit them to school. In some States non-residents are not covered by compulsory school attendance law; in others no attempt is made to enforce the law as it affects them. As a result of these conditions, only a few of the children of migrants complete the eighth grade and none goes further.

TRENDS AND EXTENT OF CHILD LABOR

Katharine Lenroot, Chief of the Children's Bureau, has estimated that about 50,000 children under 16 years of age, exclusive of newsboys, are affected by the Fair Labor Standards Act. This represents only a small proportion of the total number of child workers in both agriculture and industry throughout the country. Before the law was enacted, a conservative estimate, based on the 1930 census figures on occupational shifts and on trends in child labor as reflected in employment certificate figures, placed the number at 850,000. All available data point to a shift in industrial child employment from the mechanical and manufacturing industries which predominate in interstate commerce to local occupations which cannot be reached by Federal legislation under the existing powers of Congress. Among the occupations commonly entered by children which are not covered by the Fair Labor Standards Act are clerical work, chiefly clerks in retail stores, and messenger, errand and office boys and girls, and domestic and personal service, which does not include housework in the child's own home but does include employment in beauty parlors, hotels, restaurants and laundries.

Regardless of the occupations entered, employment certificate data show that, except where controlled by state legislation, fluctuations in the number of children leaving school for work follow similar movements in adult employment. In localities where minimum age legislation remained unchanged during the two years, there was, as compared with corresponding periods in 1936, 20 per cent increase in the number of 14- and 15-year-old children leaving school for work in the first six months of 1937, a period of generally rising employment, followed by 16 per cent decrease during the last half of the year, when the number of adult unemployed rose.

In New York and Rhode Island, where a 16-year minimum age was established in 1936, the issuance of employment certificates to children under 16 has practically ceased. Before the new state laws became effective, more than half of all certificates issued in the entire area reporting to the Children's Bureau were in these two States. For all States and cities reporting, 41 per cent fewer certificates were issued during the entire year of 1937 than in 1936. If New York and Rhode Island are eliminated, the decline for the remaining areas was only one per cent.

Since only a limited group of cities and States submit reports to the Children's Bureau on the number of employment certificates issued, and since certificates are issued only to children legally employed in selected occupations, the statistics which they provide are useful in indicating trends in child employment, but not in determining its extent.

STATE LEGISLATION

In only a few instances do state child labor laws provide minima for child employment equal to those established by the Fair Labor Standards Act for interstate commerce. Only 10 States have 16-year minima for factory employment during school hours. Three States place the minimum at 15 years, 24 at 14, and eight, through exemptions, still permit children under 14 to leave school for employment. Thirty-one States have practically no restrictions on hazardous employment for 16- and 17-year-old minors, and nine have almost no such regulation even for children of 14 and 15. During 1938 nine state legislatures met in regular session, but in none of them was any advance made over these basic standards.

THE CHILD LABOR AMENDMENT

Ratification of the Child Labor Amendment to the Federal Constitution remains the only means through which adequate nationwide protection against the abuses of child labor in all forms of industry can be assured. The pending amendment, which was submitted to the States by Congress in 1924, provides that Congress shall have the power to "limit, regulate and prohibit the labor of persons under eighteen years of age." Ratification by 36 States is needed to make this proposal a part of the Constitution, and at the close of 1937, 28 had given it their approval. During 1938 resolutions for ratification were introduced in Massachusetts, Mississippi and New York, but were defeated in each instance.

In Kansas and Kentucky, both of which ratified in 1937, opponents of the amendment challenged the validity of ratification in the courts. Both cases involved three major issues: (1) whether a State which has affirmatively rejected an amendment can subsequently ratify; (2) whether, since an amendment must be ratified by three-fourths of the States, the Child Labor Amendment which has been affirmatively rejected at some time by more than one-fourth of the States is thereby killed once and for all, and (3) whether, since the Supreme Court has held that an amendment must be ratified within a "reasonable" time, the child labor amendment is still open for ratification, 14 years since its submission by Congress to the States.

The Supreme Court of Kansas upheld validity of ratification by Kansas on all three points. The Court of Appeals of Kentucky declared ratification by Kentucky null and void on the same points. Both cases were appealed to the United States Supreme Court where arguments were heard Oct. 10–11, 1938. The Court's ruling had not been announced by Dec. 15.

NEW PUBLICATIONS

The American Child (published monthly, except during the summer); *Child Labor Facts, 1938; Changes and Trends in Child Labor and Its Control,* by Homer Folks, 1938; *The National Child Labor Committee; What It Is, What It Does,* 1938; *State Child Labor Legislation,* 1938 (mimeographed); *Annual Report for the Year Ending September 30, 1938,* by Courtenay Dinwiddie, (National Child Labor Committee, New York).

Work Accidents to Minors in Illinois, by Earl E. Klein, 1938; *The Child and the State, Vol. I. Apprenticeship and Child Labor,* by Grace Abbott, 1938 (Univ. of Chicago Press). *Wages, Employment Conditions, and Welfare of Sugar Beet Laborers,* by Elizabeth S. Johnson, 1938. *State Child Labor Standards,* 1938; (Children's Bureau U. S. Department of Labor, Washington, D.C.). *They Starve That We May Live,* by Edith E. Lowry, 1938 (Council of Women for Home Missions, New York.) *Child Labor,* by Tom Ireland, 1937 (Putnam).

PERIODICAL PUBLICATIONS

American Child
419 Fourth Ave., New York City.
American Federationist
American Federation of Labor, Washington, D.C.
American Labor Legislation Review
131 East 23d. Street, New York City.
American Labor World
66 Duane Street, New York City.
Child (The)
Children's Bureau, Department of Labor, Washington, D.C.
Labor Digest
1472 Broadway, New York City.
New Masses
31 East 27th. Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Assn. for Labor Legislation, 131 E. 23rd St., New York City.

American Federation of Labor, A. F. of L. Building, 9th and Massachusetts Ave., N.W., Washington, D.C.

American Federation of Musicians, 1450 Broadway, New York City

Congress of Industrial Organization, Tower Building, Washington, D.C.

International Assn. of Garment Manufacturers, 40 Worth St., New York City.

International Assn. of Machinists, Machinists Building, Washington, D.C.

International Longshoremen's Assn., 265 W. 14th Street, New York City.

International Seamen's Union of America, 666 Lake Shore Drive, Chicago, Ill.

Junior Order of United American Mechanics, 3029 N. Broad St., Philadelphia, Pa.

League for Independent Political Action, 315 Fourth Ave., New York City.

League for Industrial Democracy, 112 East 19th St., New York City.

Marine Engineer's Assn., 157 Chambers St., New York City.

National Assn. of Letter Carriers, A. F. of L. Building, 9th and Massachusetts Ave., N.W., Washington, D.C.

National Civic Federation, 570 Lexington Ave., New York City.

National Federation of Post Office Clerks, A. F. of L. Building, 9th and Massachusetts Ave., N.W., Washington, D.C.

National Industrial Conference Board, 247 Park Ave, New York City.

National Industrial Council, 14 West 49th St., New York City.

Pilots' Association, 119 Broad St., New York City.

United Licensed Officers, 15 Whitehall St., New York City.

DIVISION XVII

RELIGION AND RELIGIOUS ORGANIZATIONS

PROTESTANT DENOMINATIONAL ACTIVITIES

By Herman C. Weber

Editor, *Yearbook of American Churches*

CHURCH UNION

The year 1938 recorded a singular shift of Protestant interest toward union. The disabilities of large sections of the Christian population in several Old World countries, as well as the growing conviction that forces were operating in the world which threatened, not the dogmas alone, but the very spirit of the Christian religion, made the greater Protestant groups growingly self-conscious and intent on appraisal. The ecumenical conferences which were held in Oxford and Edinburgh in the summer of 1937 produced a significant literature and also stimulated discussions everywhere on the place of the Church and the future of the Christian faith. The two conferences drew all the major Protestant groups around the world as well as the Eastern Orthodox leaders. They agreed upon a move looking forward to the organizing of a World Council of Churches, allowing plenty of time for preliminary exploration of difficulties. The Federal Council of Churches organized a Commission on Unity for "exploratory and advisory purposes only" in 1937, and this Commission was active during 1938. During the summer the *ad interim* committee on the World Council met in Holland and agreed upon a tentative constitution to be submitted to the Protestant and Eastern Orthodox bodies for discussion and approval.

Meantime the more restricted movements for union made considerable progress. The Methodist Episcopal Church, South, succeeded in getting final action on the proposal to effect a union of the Methodist Episcopal, the Methodist Episcopal South and the Methodist Protestant Churches. Efforts were made by disaffected elements in the South to defeat the proposal in the quadrennial conference of this Southern body. A mass meeting of protest was called before the general conference, and legal difficulties were threatened. But the general conference overwhelmingly approved the union, and April 26, 1939 was set as the day when the act of union should be registered.

The Protestant Episcopal Church made advances to the Presbyterian Church, U. S. A. in 1937 at its triennial convention. Commissions were appointed and were active during the year. Unexpected progress was reported in the preliminary stages of the investigation of how these two bodies with very diverse views on liturgics and sacramentarianism can reach a possible basis of union.

The union which was effected in 1934 between the Reformed Church in the U. S. and the Evangelical Synod on the basis of mutual trust and without protocols of any kind progressed during the year, boards, publishing houses, offices and other arrangements being gradually merged as the way opened. The process is almost completed.

The conferences at Oxford and Edinburgh and the pressure there for a united Protestantism has raised the question of separatism in a new form for the congregational bodies, the Congregational-Christian, the Baptist and the Disciples groups. It has also affected the thinking of the Lutheran bodies which have in addition had to consider or reappraise the problems of church and state under fire. The Lutherans have appointed a representative commission to make a thorough-going study for world-Lutheranism of the problems with which their leaders are forced to deal in countries like Germany and in lesser degree in the United States where the Lutheran community is being urged to ally itself with the rest of Protestantism.

An extraordinary ecclesiastical event took place in December when the Syrian Antiochian Eastern Orthodox Church was scheduled to apply for membership in the Federal Council of Churches of Christ in America, and its Primate, the Very Rev. Antony Bashir, was given a place on the program at the biennial meeting of the Council at Buffalo, N. Y. Dec. 6-9.

INTEREST IN RELIGION

Two movements were discernible during the year. One was an implied criticism of organized religion visible in the rapid growth of the established or new ecstatic sects and the spread of new thought or esoteric cults like the Unity movement and the "I Am" group. The other was the constant reference of publicists to the importance of religion as the bulwark against the excesses of autocracies and the antidote for the poisonous social or asocial trends in dictator communities. Dorothy Thompson, George Sokolsky and many others wrote and spoke incessantly of the importance of religion, and their statements were echoed by statesmen and publicists everywhere. The crises which developed so constantly in international affairs deeply stirred the pity, the sense of justice and the fears of upright and God-fearing folk and brought new attention to the basic values of religion. A national stewardship conference was held in Chicago, Nov. 1–3, to which Jewish, Catholic and Protestant religionists were invited. There were some fears that this conference might be considered a money-raising stimulus. But the speakers, many of them laymen, and of the three Faiths, greatly interested the large gathering by their evangelistic fervor in pleading for commitment and sacrifice in religion. It was reported that men's gatherings under the auspices of some of the larger denominations had been very largely attended by masses of men and had engendered enthusiasm for the work of the Churches.

CHURCH STATISTICS

The *Christian Herald* presented an annual compilation of church membership statistics for many years. It deferred the presentation this year to its sixtieth anniversary edition in October. It engaged the Rev. Herman C. Weber, D.D., president of the Association of Statisticians of American Religious Bodies, to handle the compilation. It is believed that this is the most authoritative compilation since the 1926 Religious Census, taken by the U. S. Bureau of the Census. Only the religious bodies with 50,000 or more members appear individually in this compilation. The rest, many of them very small bodies indeed, are lumped in a category entitled "Other Minor Bodies." They comprise only 2½ per cent of the total and while some of them are much more significant in organized religion than their numbers suggest, they are not statistically important. The figures for all bodies of record have been sought and, to a surprisingly large degree, obtained. They will be published in time in some authoritative publication of the Federal Council, but only the summary appears in the table on the next page.

There are some approximations of course in this table. The reports as a whole are, however, understated rather than inflated. Many groups revise their figures only once in three or four years at their general meetings. Others are reluctant or refuse to make reports, and old figures as collected by the Federal government under the law, have to be used.

MEMBERSHIP STATISTICS OF RELIGIOUS BODIES IN THE UNITED STATES

Religious Body	Congregations	Clergy	Inclusive Membership as Reported		Comparable Membership (13 Years of Age and Over)	
			1936-37	1937–38	1936–37	1937–38
1. Southern Baptist	24,844	21,689	4,482,078	4,595,602	4,208,671	4,315,270
2. Methodist Episcopal	24,295	15,293	4,349,244	4.364,342	3,966,511	3,980,280
3. National Baptist (Col.)	24,000	27,232	3,746,590	3,796,645	3,428,130	3,473,930
4. Methodist Episcopal, South	16,320	7,742	2,787,217	2,822,516	2,463,900	2,495,100
5. Presbyterian, U. S. A.	8,700	9,452	1,912,584	1,903,747	1,836,084	1,827,597
6. Disciples	8,056	7,236	1,602,052	1,597,779	1,488,307	1,484,337
7. Northern Baptist	7,569	7,970	1,454,269	1,471,788	1,391,736	1,408,501
8. Protestant Episcopal	7,364	5,923	1,924,519	1,942,322	1,348,244c	1,361,167
9. United Lutheran	3,713	3,344	1,523,022	1,541,841	1,127,036	1,140,962
10. Synodical Lutheran Conf.	5,153	4,438	1,495,495	1,538,148	1,054,160	1,073,173
11. American Lutheran Conf.	6,001	4,021	1.441,615	1,441,348	1,024,858	1,024,774
12. Congregational & Christian	6,109	5,847	1,010,776	1,030,914	983,485	1,003,079
13. Evangelical and Reformed	2,915	2,460	849,205	833,790	642,149	651,467
14. African M. E.	7,115	6,500	650,000	650,000*	581,750	581,750*
15. Latter-Day Saints	1,519	4,576	678,203	690,401	521,538	578,267
16. African M. E. Zion	4,205	4,803	597,785	597,785*	520,671	520,671*
17. Presbyterian, U. S. (S.)	3,493	2,463	482,178	497,816	446,015	460,480
18. Churches of Christ	6,226	2,507	433,714	433,714*	433,714	433,714*
19. United Brethren	2,823	1,706	410,897	411,674	373,094	374,024
20. Colored M. E.	4,258	3,490	379,436	379,436*	340,354	340,354*
21. American Baptist Asso.	2,662	1,734	263,484c	263,484*	260,876	260,876*
22. Four-Square Gospel	367	2,250	257,635	257,635*	219,050	219,050*
23. Evangelical	1,890	1,891	223,183c	224,457	211,354c	212,560
24. Christian Scientist	2,130	4,260	202,098	202,098*	202,098	202,098*
25. Church of God in Christ	1,200	1,500	200,470	200,470*	190,470	190,470*
26. Methodist Protestant	2,111	1,116	196,480	198,780	182,530	184,667
27. Assemblies of God	3,580	3,388	173,349	197,228	155,495	176,914
28. United Presbyterian	861	894	179,115	180,065	170,876	171,782
29. Reformed in America	724	870	159,560c	159,343	157,007c	156,794
30. Brethren (Conservative Dunkers)	1,025	3,022	161,503	164,784	151,005	154,073
31. Seventh-Day Adventists	2,362	992	152,961	156,205	148,831	151,987
32. Nazarene	2,341	4,033	133,516	140,291	127,054	132,996
33. Salvation Army	1,646	4,419	255,765	240,258	102,306	104,820
34. Primitive Baptist	2,700	1,525	103,125	103,125*	102,919	102,919*
35. Reorganized Latter-Day Saints	575	2,185	99,492	101,122	93,300	93,740
36. Christian Reformed	290	270	117,972	118,973	79,985	80,664
37. Church of God	1,351	1,973	82,893	82,990	79,329	79,416
38. Free Will Baptist	397	412	79,650	79,650*	78,227	78,227*
39. Friends	678	1,048	85,257	85,257*	71,190	71,190*
40. Cumberland Presbyterian	1,096	790	70,215	70,539	66,353	66,452
41. Unitarian	353	461	63,545c	58,951	62,909c	58,361
42. Universalist	536	522	51,159	51,998	50,494	51,322
TOTAL PROTESTANT, ETC.	205,553	188,247	35,523,306	35,879,311	31,144,065	31,530,275
43 Roman Catholic	18,428	32,668	20,831,139	21,322,688	14,956,758	15,492,016
44. Polish National Catholic	146	138	186,000	189,620	136,000	130,838
45. Greek Orthodox	260	280	289,000	305,000	279,000	290,000
46. Russian Orthodox	238	283	526,000	325,000	377,142	233,025
47. Syrian Orthodox	69	65	125,000	61,043	99,000	45,783
48. Serbian Orthodox	35	32	100,000	100,000*	75,000	75,000*
49. Armenian Apostolic	52	29	105,250	108,000	94,196	95,950
50. Jewish Congregations	4,150	2,200	4,081,242	4,081,242*	2,930,332	2,930,332*
THE MAJOR BODIES as above	228,931	223,942	61,766,937c	62,371,904	50,091,493c	50,823,219
OTHER MINOR BODIES	17,487	22,498	1,455,059	1,476,190	1,310,595	1,333,007
TOTAL REPORTED	246,418	246,440	63,221,996c	63,848,094	51,402,088c	52,156,226

(c: corrected; * last year's (or older) report). Increase in "adult" membership (13 years of age and over) **754,138.**

There are omissions and, in the case of some communions, pruned constituency and membership rolls.

The totals are impressive. There is nothing like these figures in the world. These 50,000,000 people have not been enrolled by birth or citizenship rules, but by an act of submission or confession or agreement to lead a religious life of some sort. In a very real sense here is a reservoir of aspiration and attitude on which a new world may be built out of the fragments into which civilization seems to be disintegrating. The science or the educational leadership or the statesmanship which overlooks or disregards this phase of American life may be condemning its own wisdom.

THE NORTHERN BAPTISTS

This body met in its annual Convention at Milwaukee, Wis. May 26 for a five-day session to which about 3,000 delegates were accredited. The convention itself was preceded by a number of preliminary gatherings which voiced special interests of Baptists or recorded differences of opinion. A Fundamentalist Fellowship, for example, had a well-attended meeting, but so also did the Roger Williams Fellowship of younger liberals. The keynote address of the Convention was delivered by the retiring president, the Rev. Earle V. Pierce of Minneapolis. Dr. Pierce, had deeply impressed the Baptist constituency with his energetic and capable leadership. His zeal as well as his advocacy of missionary enterprises produced some sentiment for his reelection. The habit of the Convention, however, of alternating clergymen and laymen in the presidency, dissipated this sentiment, and A. J. Hudson, an attorney, an active leader in Baptist missionary work in Cleveland, was elected. The Rev. C. G. Brownville of Boston, and Mrs. H. G. Colwell of Loveland, Col. were elected vice-presidents.

In spite of rumors of contentions concerning so-called "open membership," the Convention appeared to move through its business in a calm and deliberative way. There is, however, dissatisfaction among extreme conservatives over the "inclusive" policies of the missionary societies and over the tolerance with which many churches view open or associate membership. These memberships do not require immersion. The policy of the missionary societies provides for the use of both conservative and liberal missionaries. It is felt by many that these dissatisfactions on the part of extreme conservatives will register in time.

An effort was made at the Convention to unify still further the educational agencies of the denomination. There are several entrenched bodies which divide the work of religious and missionary education, and the only report the unifying committee could agree upon was one recommending a Council of Christian Education in which representatives of the organizations affected might collaborate with the hope that unification might be effected in time.

A critical subject for discussion was the question of the proposed World Council of Churches. It was decided to send a delegate to the meeting which had been called in Holland during the summer to discuss the constitution of a Council but the traditional Baptist position of aversion to overhead domination or direction or to any interference with the theory of the autonomy of the local church made the convention adherence to tentative participation very cautious. It was, however, felt that the Convention would enter the Council provided its reluctance to organic union were respected and only its cooperation asked.

The Convention expressed itself very definitely about social questions. It deplored anti-semitism and expressed its deep sympathy with all persecuted groups. It resolved to give its support to all pacific means for settling international disputes and asked its constituency to oppose American participation in any armament race. It also expressed itself as regretting the divisive tendencies in American labor.

There was some curtailing of the budget of the unified promotional agency at headquarters in New York, but there were signs that the excellent publicity and plans of a committee on local church emphasis had stimulated Baptist churches appreciably in their annual programs and work.

THE SOUTHERN BAPTIST CONVENTION

The Southern Baptist Convention met at Richmond, Va., May 12. About 5,000 messengers from the Southern States were in attendance. The presiding officer was the Rev. John R. Sampey of the Southern Baptist Seminary at Louisville, Ky. The Rev. L. R. Scarborough, president of the Southwestern Baptist Seminary, Fort Worth, Tex., was elected his successor. The Social Service Commission of the Convention presented an outstanding report. In it was a strong protest against mob violence leading to lynching and another protest against unprecedented armaments. It recommended the following resolutions: (1) reaffirmation of separation of church and state, and prohibition of appropriation of public funds for sectarian institutions; (2) right of ownership and capital to a return on investments as well as the right of labor to organize and bargain collectively; (3) child labor laws approved but a constitutional amendment on child labor disapproved; (4) opposition to the liquor traffic reaffirmed; (5) support of dry organizations urged; (6) legalization of lotteries vigorously condemned. The Rev. J. H. Rushbrooke, executive secretary of the Baptist World Alliance, with offices in London, strongly criticized the Edinburgh Conference on Faith and Order. He insisted that this conference had done harm through its pressure for "mechanical union" which had had the effect of widening the cleavages in Christendom. He feared any blend of sacerdotalism and evangelicalism, and felt that the simplicities of the Gospel would be smothered by an overemphasized ecclesiasticism.

The Convention listened to its President, Dr. Sampey, and to the Rev. George E. Truett, on the ecumenical movement and on interdenominational relations, and by an overwhelming vote rejected a resolution providing for a study of the fellowship of churches as suggested by the action of the temporary committee studying the proposed World Council of Churches. The convention proposed to cooperate "in every worthy endeavor for the moral and social uplift of humanity" but turned from "man-made union" or "monopolies fraught with many perils and too carnal to be safe."

Great concern was expressed for the extensive property holdings of Southern Baptists in the Japanese-occupied districts of China. These have been in Japanese hands and have been greatly damaged. It was reported there were 163 missionaries of the Convention in China, and their personal losses in the war area have been great. A tribute was paid to Dr. Herman Liu, late president of the University of Shanghai, who was assassinated during the year.

THE CONGREGATIONAL AND CHRISTIAN CHURCHES

The biennial assembly of this body met in Beloit, Wis. June 15. The retiring moderator, Roger Ward Babson, the business statistician, held the center of the stage at the opening of the Council. It was anticipated that he might again stir up resentment by more of what some characterized as "immoderate" moderatorial utterances during his itinerations through the Congregationalist constituency. He had announced as his subject, "The Revolt against Religion." This sounded explosive but turned out to be the reaction of a business man to conditions as he had found them in his travels through the constituency. The diagnosis is perhaps worth recording. The "revolts" were catalogued as follows: (1.) Against the present method of recording church membership by the theory "once a member, always a member." There is a demand for an annual reaffirmation. (2.) Against hypocrisy among church members. There is a demand that the standards for church membership shall be raised in order that it may mean more to be a church member.

(3.) Against present inefficient Sunday schools. (4.) Against ministers' "hogging" the middle of the week-end by saying: "Go to church between 11 and 12 on Sunday morning or not at all." There is a demand for multiple services, more and shorter ones. (5.) Against "intellectual" religion. There is a growing belief that one can not save his soul without being "born again." (6.) Against the prevalent custom of church committees calling on their neighbors only when the church is raising money. There is a demand for the spirit of real stewardship in the church. (7.) Against a few socialistic or capitalistic delegates, at national church conclaves, passing resolutions pretending to bind the entire membership. (8.) Against the church being in business, through operating investment trusts, publishing concerns and other financial activities. (9.) Against the present wasteful competition between different Protestant denominations. (10.) Against the Church's apparent lack of interest in the people's welfare. There is a demand that the Church at least do more to see that its own church families obtain employment.

As successor to Mr. Babson, the Council chose the Rev. Oscar E. Maurer, pastor of the Center Church, New Haven, Conn. The recently established Council for Social Action received a new director, Prof. Dwight Bradley of Andover-Newton Theological Seminary. He will be associated with the Rev. Hubert Herring, who will be given an office and research staff in Washington, D.C., and have charge of matters of church and state. The Rev. Douglas Horton, of Chicago, was confirmed as successor to the Rev. Charles E. Burton, retiring secretary of the Council.

The seminars on social action were crowded with interested delegates and it was reported that all proposed actions by the Council were opposed or defended according to their relation to social action.

THE DISCIPLES

The International Convention of the Disciples of Christ met in Denver, Oct. 16. About 2,000 delegates were in attendance. The Rev. Frederick D. Kershner, president of Butler University, delivered the presidential address on "The Church, One Holy, Catholic and Apostolic." "Since the days of the Reformation," said Dr. Kershner, "we have witnessed what many have styled as a deification of the particular in religion. Any small group of Christians who could find something different from what was believed by other people proceeded to create a brand-new escutcheon and to go forth to do battle for the Lord and their own particularity." The day had passed for this, the speaker thought, and the notes of unity, holiness, catholicity and apostolicity needed to be sounded. The address made a sufficiently profound impression to affect all the platform deliverances and to prepare the way for a unanimous vote when the question of adherence to the proposed World Council of Churches was brought before the Convention. The Rev. Henry Smith Leiper, Rev. Graham Frank, greatly honored secretary to the Convention, and the Rev. Edgar DeWitt Jones, member of the Convention and president of the Federal Council of Churches of Christ, enthusiastically urged affirmative action on the proposal. Immediately after the vote the suggested financial support of the World Council was assured on the spot.

The Rev. Roger T. Nooe, pastor of the Vine Street Church, Nashville, Tenn., was elected president to succeed Dr. Kershner. The Rev. Robert M. Hopkins, secretary of the World's Sunday School Association, was elected to succeed the Rev. Stephen J. Corey, for more than 30 years secretary of the foreign missionary work of the Disciples. The Convention was characterized by unusual unity and by the presence on the program of speakers of very diverse views, both conservative and liberal. The session was described by C. C. Morrison, editor of the *Christian Century,* as follows: "The Disciples have three types of problems from which their controversies have arisen in the past. These have to do with the organizational machinery . . . ; with the ideology by which the denomination makes articulate its own faith; and with the orientation of the denomination in relation to all other Christians. Each of these fields has been the prolific source of sharp controversy, at times bordering perilously on division. Indeed, a division did actually take place . . . and still exists, chiefly over the question of organizational machinery (the Church of Christ). But even within the main body there has been persistent tension over this same matter. Signs have been increasing in recent years that this tension was being relaxed, and the Denver convention seemed to confirm these earlier indications."

THE PROTESTANT EPISCOPAL CHURCH

This body had no general meeting during 1938. Its triennial convention meets in 1940. At the 1937 convention a resolution was passed looking forward to union with the Presbyterian Church in the U.S.A. It was couched in simple and appealing language: "The General Convention of the Protestant Episcopal Church in the U.S.A., acting with full realization of the significance of its proposal, hereby invites the Presbyterian Church in the U.S.A. to join with it in accepting the following declaration: The two Churches, one in faith of the Lord Jesus Christ, the Incarnate Word of God, recognizing the Holy Scripture as the supreme rule of faith, accepting the two Sacraments ordained by Christ, and believing that the visible unity of Christ's Church is the will of God, hereby formally declare their purpose to achieve organic union between their respective Churches. This resolution was presented to the General Assembly of the Presbyterian Church in the U.S.A. at its meeting in May and was adopted without dissent. On Oct. 28 the commissions of the two Communions met in New York City and agreed upon a "provisional concordat" to be recommended to the Episcopal General Convention and to the Presbyterian General Assembly. The concordat is an arrangement designed to promote cooperation and union between specific Presbyterian and Episcopal groups in various communities. It is to be regarded as an *ad interim* arrangement "to provide means whereby each Church may whenever it seems locally desirable, assume pastoral charge of the members of the other and offer them the privilege of the Holy Communion, thus establishing one congregation." As a means to this end, provision would be made for the commissioning of a minister of either Communion, for service in the united congregation, by the appropriate authority of the other Church, that is, either by the presbytery or by the bishop or both. Precedents for this arrangement were reported discovered in Scotland. A joint executive committee was appointed, consisting of Bishop Edward L. Parsons, Dr. Henry Chandler Robbins and Dr. Francis J. Bloodgood for the Convention, and Dr. J. Ross Stevenson, Dr. William Barrow Pugh and Dr. Lewis S. Mudge for the General Assembly.

The definite proposals of the commissions were bound to excite interest and raise the immediate fears of the fundamentalist wing of the Presbyterian churches and the high-church group in the Episcopal fold. A protest was filed by a large group of Episcopal clergy and the *Presbyterian,* conservative weekly, called the discussions of organic unity a "dubious venture." The concordat will doubtless provoke discussion at the Presbyterian General Assembly in Cleveland in May, 1939, and in the Episcopal Convention in 1940.

The work of the National Council of the Episcopal Church was overhauled during the year. The Rev. Henry St. George Tucker, Bishop of Virginia, was established as head of the Council. The Rev. Charles Wilford Sheerin was made second vice-president in charge of promotional work, and he announced the establishment of a department of parochial aid in the charge of William L. Richards; a bureau of religious and secular press relations in the charge of the Rev. John W. Irwin; and a division of radio and visual education which will be in the charge of the Rev. G. Warfield Hobbs.

AMERICAN LUTHERAN CONFERENCE

This body is a federation of five synodical Lutheran bodies, the American Lutheran Church, the Norwegian Lutheran Church of America, the Evangelical Lutheran Augustana Synod of North America, the Lutheran Free Church and the United Danish Evangelical Lutheran Church in America. It is predominantly Scandinavian and holds a doctrinal position midway between the United Lutheran Church and the Synodical Lutheran Conference which is dominated by the ultra conservative Missouri Synod. It held its biennial convention at Racine, Wis. Nov. 9. Striking evidence of growing opinion that American Lutheranism must present a united front in this country was offered by the action of this body in discussing at length the possible approach to a closer unity and in creating a commission to study it. On this commission, with the Rev. N. C. Carlsen, as convener, were appointed the presidents and two representatives of each of the five constituent bodies. The president of the convention was the Rev. Thaddeus F. Gullixson. The Rev. E. E. Ryden of Rock Island, Ill., editor of *The Lutheran Companion* was elected to succeed him for a term of two years.

UNITED LUTHERAN CHURCH

This Lutheran body met at Baltimore, Oct. 5. It again elected the Rev. Frederick H. Knubel its full-time president. He has served in this office since the United Church was organized 20 years ago through the merging of the General Synod, the General Council and the United Synod of the South. This body has steadily moved in the direction of the uniting of the many divided groups in Lutheranism. Rather vigorous expression was given at this convention to the opinion that the initiative in future negotiations ought to come from other branches of Lutheranism. In this connection the delegates approved a declaration concerning the Word of God which was felt to be a significant statement in the history of American Protestantism. A committee of eminent Lutheran theologians had prepared this declaration as a contribution to the clearer discussion of the ecumenical movements and the relation of Lutheranism thereto.

The Inner Mission Board of the Church changed its name to the Board of Social Missions after a spirited debate. Committees on Moral and Social Welfare and Evangelism were merged with this Board, and the Board was authorized to cooperate with the Lutheran World Convention in offering assistance to refugees. The scriptural and constitutional authority of the right of women to sit as delegates at conventions of the Church and its constituent synods and the right to serve on boards and committees was upheld by the commission of adjudication. A proposal to establish episcopacy in the United Lutheran Church (as in Sweden) was emphatically defeated. Membership in the proposed World Council of Churches was approved on a tentative basis pending the determination of the character of the final constitution of the Council. President Knubel was reported as the Lutheran representative on the constitutional convention to be held in 1939. The Rev. Walton H. Greever was reelected the secretary, and E. Clarence Miller, treasurer.

THE EMERGING METHODIST CHURCH

The movement to unite the Methodist Episcopal Church (4,684,444 members), the Methodist Episcopal Church, South (2,847,351 members) and the Methodist Protestant Church (197,996 members) progressed during the year through its final stages in the respective legislative assemblies of each body. The Methodist Episcopal Church passed on the plan of union in its quadrennial conference at Columbus, O. in May, 1936. The annual conferences in turn passed on the plan with their approval. In the Methodist Episcopal Church, South, the plan was submitted to the annual conferences during 1937. Only one conference voted against it. (In 1924 the plans was passed by the General Conference but did not receive the constitutional majority required in the annual conferences.) The votes in the annual conferences in 1937 were 7,650 for, and 1,247 against. The final vote in the quadrennial conference in 1938 was 434 to 26. In the Methodist Protestant Church the vote for union, both in the annual and the general conferences, was overwhelming. The final act of union is scheduled for April 26, 1939. The new Methodist Church (the words "Episcopal," "South" and "Protestant" disappear) will report, to begin with 7,729,791 members. The net value of its property is $652,220,837. Its income is currently reported as nearly $77,000,000, of which $35,000,000 goes to ministrial support, $13,000.000 to building and improvement, and $16,000,000 to current expenses. Of the total $10,000,000 goes for benevolences. About 21,000 clergy minister to 45,000 congregations. The territory of the new Church is divided into six jurisdictions: Western (358,995 members), South Central (1,395,840), Southeastern (2,090,204), Northeastern (1,615,284), North Central (1,753,514) and Central (284,705).

METHODIST EPISCOPAL CHURCH, SOUTH

The quadrennial conference of this body met at Birmingham, Ala. April 28. Its great subject for discussion was the proposal for union with the Methodist Episcopal and the Methodist Protestant Churches. Once before, the matter had been before the conference, had been favorably acted upon, and then beaten in the annual conferences. At this conference the annual conferences with one exception were in line, and the passage of the plan of union was a foregone conclusion. This did not prevent an animated debate and a flood of parliamentary motions. Opposition from several retired bishops and a group of laymen had developed, and it was not quite sure what the result would be. The vote, however, was decisive—434 to 26. To meet certain charges of illegality the action was referred to the judicial council of the Church and its unanimous decision was duly received in favor of the legality of the action of the Conference. An important duty of the Conference was to elect seven bishops. Bishops John M. Moore, James Cannon, Jr., Sam R. Hay, Hiram A. Boaz and William N. Ainsworth retired. The following were elected: Ivan Lee Holt, of St. Louis, William Walter Peele of the Western North Carolina Conference, Clare Purcell of Gadsden, Ala., Charles C. Selecman of Southern Methodist University, Dallas, Tex., John Lloyd Decell of Jackson, Miss., William C. Martin of Dallas, Tex., and William T. Watkins of the School of Theology of Emory University, Atlanta, Ga.

The Conference unanimously adopted a report from its committee on church relations which declared, "We rejoice in the growth of the sentiment of unity throughout the Chrisitan world," and called attention to the new understanding which the world conferences at Oxford and Edinburgh had brought to the fellowship of churches. The committee was instructed to keep the door open to any commission or church which might desire to enter into negotiations with the Methodist Church looking to union.

Great emphasis was placed on evangelism in the South by the Conference. A commission was set up and a secretary of evangelism was elected. A commission, appointed in 1934 to study the rural field, reported, and, in line with its report, a rural work commission was authorized, charged with the duty of developing a cooperative procedure between all church agencies that may serve rural areas and of cooperating with other constructive agencies.

THE PRESBYTERIAN CHURCH IN THE U.S.A.

This is the largest of the Presbyterian Bodies in the U.S., with churches and institutions in all sections of the country, while the Presbyterian Church, U.S., is confined to the Southern States and familiarly called the "Southern Presbyterian" Church. The General Assembly of this larger body met in Philadelphia May 26. The Assembly was organized in that city 150 years ago out of several synods and their presbyteries which had been in existence long before. To Presbyterians this proved to be a very notable anniversary occasion. An exhibit was prepared, great public meetings were arranged, and a pageant, a reenactment of the first Assembly, was staged. About 10,000 visitors were attracted to these celebrations. The retiring moderator, the Rev. William Hiram Foulkes, preached the opening sermon and called the historic Assembly to order. The Rev. Charles W. Welch, pastor of the Fourth Avenue Presbyterian Church, Louisville, Ky., was elected moderator. A fervent plea by the Rev. J. M. Broady, of Birmingham, Ala. to elect a Southerner in order to promote union with the Southern Presbyterian Church produced great applause and led at once to the election of Dr. Welch.

One of the events of the Assembly interesting to the denomination was the election of a stated clerk to succeed the Rev. Lewis Seymour Mudge who was forced to retire on account of age limit rules. Dr. Mudge had made a deep impression on the Church by his leadership and the respect he had won for his office. A very distinguished committee had been appointed to suggest a successor to the Assembly. The Assembly had, however, made up its mind beforehand and when this was revealed, the committee seconded the nomination of the Rev. William Barrow Pugh, long an eccelesiastical assistant to Dr. Mudge, as law clerk of the Assembly, and he was unanimously elected.

It was reported to the Assembly that the centennial of the Board of Foreign Missions had successfully observed its centennial year with the cooperation of thousands of churches and their pastors. A centennial fund of over $500,000 was reported raised, enabling the Board to send out a delegation of new missionaries. The fund seemed to indicate that the criticism of the Foreign Board by the fundamentalist group which seceded in 1936 had lost its last bit of influence.

The social action group in the Assembly was ably represented and its recommendations were approved. The attempt to prune the ancient Confession of Faith and the Catechism of all implications for the endorsement or toleration of war took a long step forward. The committee charged with preparing amendments presented a painstaking report. This was attacked by the Rev. Clarence E. Macartney but was overwhelmingly endorsed by the Assembly, and the Stated Clerk was ordered to send the amendments down to all the presbyteries whose vote is necessary to make any constitutional or creedal changes.

The General Council reported that the Rev. Arthur H. Limouze had accepted the secretaryship of promotion, giving up his position as the promotional head of the Board of National Missions, to head up the united promotional work of the General Council. Many extra-assembly meetings were held during the assembly-time in Philadelphia. Most of the outstanding orators and platform men of the denomination were heard and great enthusiasm was in evidence in the work of the Assembly. Over 150 of the missionaries of the Church were present and many interests were heard by the thousands of Presbyterians who attended.

THE PRESBYTERIAN CHURCH, U.S.

The "Southern" branch of the Presbyterian Church met at Meridian, Miss. May 19. The agenda which attracted the most public notice was the revision of the Confession of Faith and the Larger and Shorter Catechisms. The proposed changes in the confessional statements on predestination were misinterpreted in the press as an abandonment of the doctrine but this was far from being the case. The Southern Presbyterians were reported to be still strongly Calvinistic and to have merely "softened if not weakened the predestinarian doctrine and obscured the inhumanity of it." An attempt to resume relations with the Federal Council of Churches was defeated in the presbyteries by a vote of 48 to 38. A permanent committee on cooperation and union, similar to the one which is operating in the U.S.A. body, appointed in 1937, was reconstituted and continued. No signs of approachment to the older body were visible though that body was electing its moderator on the ground that he was a zealous proponent of union.

INTERDENOMINATIONAL ACTIVITIES

By Preston King Sheldon

Editor and Writer

DISSENSION AND CONFLICTS

All organized interfaith groups met severe tests in 1938 with the rise of tensions throughout the United States over differences in opinions and dissensions caused by unsettled world conditions. A resurgence of old conflicts between Protestants and Roman Catholics, between Jews and Gentiles, made its appearance as conflicting views on the status of religious groups in Russia, Mexico and Spain and of Jews in Germany and Italy gained expression over the radio and at public gatherings. A particularly tense situation was developed toward the close of the year over a radio address over WMCA by the Rev. Charles E. Coughlin of Detroit, given Sunday, Nov. 20, in which he spoke as an individual against Communism, particularly among Jews, with such effect as to draw against him charges that he was defending Nazism and seeking to promote a spirit of anti-Semitism. In reply he said "there is evidence that Jewry is silent on Communism and is reluctant to oppose it. There is the question of so-called anti-Semitism which is really anti-Communism."

Father Coughlin was criticized at the end of his broadcast by the station on which he had spoken as having been in error as to fact in attributing a large part of the responsibility for the Russian Communism revolution in 1917 to a group of Jews he named. He had said he was attempting to arouse "an insane world to distinguish between the innocent Jew and the guilty Jew" as much as he would ask it "between the innocent Gentile and the guilty Gentile."

As a result charges of misrepresentation were made against him in the press and his statements were challenged even by Roman Catholics. In brief he had declared: "Nazism was conceived as a political defense mechanism against Communism and was ushered into existence as a result of Communism" on the principle that "one persecution begets another persecution." He emphasized a need for mutual cooperation and sympathy between Jews and Christians and a frank facing of facts underlying the rise of all forms of persecution. In elaboration he said: "It is the belief, be it well or ill founded, of the present German Government that Jews—not as religionists but as nationals only—were responsible for the economic and social ills suffered by the fatherland since the signing of the Treaty of Versailles." He added that "Communism itself was regarded by the rising generation of Germans as a product, not of Russia, but of a group of Jews who dominated the destinies of Russia."

Later, in defense of his position, Father Coughlin cited a report in *The New York Times* of a session of the American Jewish Congress in New York in October stating "the mention of Communism threw the convention into an uproar when delegates and visitors attempted to shout down Abraham Levin, a St. Louis (Mo.) delegate, who demanded that a proposed declaration of the convention's principle be amended to include a denunciation of communistic theories." The report stated that Mr. Levin "withdrew his demand."

On Nov. 27, Father Coughlin was barred from broadcasts on WMCA and two other radio stations for failure to submit a script of a second address in advance of speaking. The reason offered at WMCA was a desire to avoid extreme controversy. He was heard, however, over a wide hook-up in which he defended his position and included a broadcast of an electrically transcribed recording of his previous week's address. The reliability of the sources of his information on Russia, however, was questioned. The substance of his remarks was described by the Roman Catholic *Commonweal* on Dec. 9 as a "cavalier disregard for pertinent historical testimony."

THE QUEST FOR HARMONY

Evidence of lesser tensions rising over independent views on religious persecutions expressed by religious and public leaders and over charges by Roman Catholics of inconsistencies among Protestants and Jews in their stands, led to a growing irritation among adherents of Jewish and Christian faiths so that increased emphasis began to be placed upon the need for frank discussion of all religious problems by organized interfaith groups in order to draw them closer together in harmony. Among the chief disturbing factors that might be held responsible for such misunderstanding were undercurrents of feeling among Catholics that non-Catholics had been remiss in opposing religious terrorism in Mexico, Russia and Spain in the measure Catholics opposed persecutions of Jews in Germany and Christians in the other three countries. These feelings were noted by many Catholic speakers during the latter part of the year, notably by the Rev. Ignatius W. Cox of Fordham University.

Further feelings of unrest were noted among Catholics and Protestants because of stands taken among Protestant leaders in favor of Loyalists in Spain and on the recurring problem of proposed Federal and state aid in the United States for students in Roman Catholic parochial schools. Many Protestant groups opposed the latter as opening the way to endless sectarian appeals for public aid. Such tensions were faced without reluctance by the National Conference of Jews and Christians as inevitable. A plea to moderate consequent reactions and to avoid "any form of overt hostilities among the religious groups" was made by it.

Pointed reference to such tendencies were made at all meetings held by the Conference through the year with the declaration that "our hope is to canalize the social enthusiasms of all groups into cooperative channels." Among the lessons taught by the European situation in its effects on religious rights, the conference in its summer bulletin stressed that "Religious people, before all others, should be aware that the best guard against Nazi, Communist and Fascist propaganda is to produce an American social order better than these can promise." This statement, in brief, epitomized the general attitude of leading religious officials though, because of the enthusiasm of many for a new economic order as a safeguard against oppression, the charge of radicalism was raised against them here and there.

Particularly was this charge aired before the Dies Committee in Washington, in December, when a Lutheran clergyman declared that the Federal Council of the Churches of Christ in America had come under the influence of radical groups. The Council, which was holding its biennial meeting in Buffalo, replied to the charge by telegram, denying an allegation that it had political aims and announcing its recorded pronouncement repudiating Fascism and Communism. The delegates also called on President Roosevelt to take part in bringing together with the heads of other governments a world economic conference. Protests were made by the Council over bombings of civilians in China and Spain. Sale of war materials by Americans to countries responsible for these bombings was condemned. Secretary of State Hull was urged to use his influence to get munitions makers voluntarily to stop the sale of munitions to Japan. Christians were urged to pray for oppressed and oppressors in Germany and elsewhere.

NATIONAL CONFERENCE OF JEWS AND CHRISTIANS

A warning also was contained in the summer bulletin of the National Conference of Jews and Christians that its leaders "watch lest the churches become too rich" ("churches," of course, included Jewish congregations). The warning said "let the churches avoid such degree of entanglement with the *status quo* as to become apologists for things as they are and neglect their prophetic function."

The annual observance of Brotherhood Day in behalf of good will, under the Conference's auspices during the third week of February, was exceptionally widespread. Meetings were held in celebration of the tenth anniversary of the founding of the Conference. Addresses were broadcast by radio on a wider scale than before. One series of three such programs was used over 156 local and regional stations with speakers for Roman Catholics, Jews and Protestants. The first program featured ministers; the second, educators; and the third, business men. Stage, screen and radio artists of national popularity were also given places on three special network broadcasts.

Warnings against prejudice were made Monday night, Nov. 29, at a dinner of the National Conference of Jews and Christians at which Professor Arthur H. Compton, Nobel prize winner in 1937, and eminent physicist at Chicago University, was inducted as Protestant co-chairman of the Conference, to succeed the late Newton D. Baker. Other speakers were Roger Williams Strauss, Jewish co-chairman and Professor Carlton J. H. Hayes of Columbia University, Roman Catholic co-chairman.

Dr. Compton emphasized that "capital, labor, professional men, children in the schools, all need to feel the spirit of service." He said: "It is literally a matter of life and death that we make this spirit grow to fruition in a unified and cooperative citizenship." Professor Hayes, who introduced Dr. Compton, presenting to him a book of bound letters of congratulation running into the hundreds, said: "Under God all men are brothers. That is the basic teaching of all our religious groups. It is the teaching of the great Jewish prophets, of every Protestant denomination and emphatically of the Catholic Church from its early fathers to the present Pope Pius XI. There is no footing among any of us for doctrines of racialism or practices of persecution; and if a Jew, Protestant, a Catholic, even a Catholic priest, speaks or acts otherwise, he is a menace not only to the American nation, but to the religion which he professes — and wrongs."

INSTITUTE ON DEMOCRACY

More than 400 Protestant, Roman Catholic and Jewish leaders from 27 States attended an institute on democracy for four days in July at Estes Park, Col., with Professor Compton as presiding officer. Dr. Frank Kingdon, president of Newark University, laid upon American democracy the responsibility of finding a way to maintain itself and all institutions under it, warning that otherwise an alternative would be found. The Rev. J. W. R. Maguire of St. Viator College warned that democracy can not continue unless citizens under it possess deep religious convictions and sound moral principles. He saw a dominant materialism threatening America that might lead to totalitarianism. The Rev. Robert A. Walsh of Des Moines Catholic College held that the sacredness of human personality and the equality of men as a divine law form a two-fold basis for the democratic idea. Sigmund Livingston of B'nai B'rith, Chicago, stressed as two great sanctions of American Democracy the divine, as exemplified in the Hebrew Commonwealth, and the legal, as expressed in the Bill of Rights. Other speakers were Professor Harold D. Lasswell of the University of Chicago on sound and unsound propaganda;

Sol Lesser of Principal Pictures on the function of moving pictures and Dr. Edward A. Steiner of Grinnell College on the religious foundations of democracy. Dr. Compton discussed the relation of religion to freedom.

The conference announced the preparing of plays for the use of committees and groups interested in the basic principles of the conference's program of interfaith cooperation. It planned also a library of dramatic material. The plays were to be written by Marcus Bach whose works had already been used a number of years by the three participating groups of the conference.

CHURCH CONFERENCE ON SOCIAL WORK

The annual meeting of the Church Conference on Social Work, held jointly with the Episcopal Social Work Conference in Seattle, June 26-July 1, brought out a challenge to churches in America to clarify their thinking on social issues of the day and to speak out in favor of justice, conciliation and brotherhood. The annual message of the church conference signed by its president, Worth M. Tippy and its secretary, L. Foster Wood, in part, said: "In times like these the churches should become keenly alive to the social and spiritual needs of the less privileged portions of our population." Further, in emphasis of a need for "a more just and brotherly order," the message declared "in the name of God, we must work out methods of production and distribution of the means of life which will not only prevent hunger and want, but will also maintain the dignity of human personality. In a time like this, therefore, the church social worker should be both a technician and a prophet."

RELIGIOUS EDUCATION COUNCIL

Court officials, government employees, labor leaders, business men, farmers, missionaries and others with practical experience participated at sessions of the twentieth quadrennial convention of the International Council of Religious Education, June 25 to July 3, at Columbus, O. About 2,000 delegates were present, attending general assemblies and small group divisions. The program of discussions centered around war, poverty, unemployment, slums, prejudices, crime, industrial strife, alcohol and political corruption. Representatives of the Federal Council of the Churches of Christ in America aided in conducting the sectional conferences. Dr. George E. Haynes, executive secretary of its department of Race Relations; the Rev. James Myers, its industrial secretary; the Rev. Roswell P. Barnes, associated secretary of the department of International Justice and Goodwill; Dr. F. Ernest Johnson, executive secretary of the department of Research and Education; Dr. Henry Smith Leiper, executive secretary of the department of Relations with Churches Abroad, and Dr. Samuel McCrea Cavert, executive secretary of the Federal Council, took leading parts. The program was in charge of Dr. Roy G. Ross, general secretary of the International Council of Religious Education. Emphasis was put upon the value of a united Christian movement in the field of human relations in all phases.

FEDERAL COUNCIL OF CHURCHES

The Federal Council of the Churches of Christ in America celebrated its thirtieth anniversary Dec. 6-9 in Buffalo. A concrete manifestation of progress toward greater harmony among Christians was reported with the admitting to membership of the Syrian Antiochian Orthodox Greek Catholic Church of North America as the first non-Protestant body so affiliated. The Most Rev. Antony Bashir, Syrian Archbishop, was seated as an official member of the Council. A new plan was adopted permitting, by the affiliating of State and local councils of churches, the addition to the Federal Council of twelve additional members and to its executive committee six additional members.

Eighteen national communions of the United States and Canada were reported to have approved in principle plans for a World Council of Churches as proposed in a constitution drafted in May in Utrecht, Holland, by eighty delegates from twenty nations, and approved in August by the continuation committee of the World Conference on Faith and Order, at Clarens, Switzerland. At the Utrecht meeting a provisional committee was set up to coordinate the work of world conferences held in Edinburgh and Oxford in the summer of 1937, leading to proposals for the world council. The ratified constitution with clarifying footnotes added was immediately sent officially to all churches for their approval. Progress on the proposal, the first such step in history, was reported also for informative purposes, at the semi-annual meeting of the North American Administrative Committee of the World's Sunday School Association in New York, on June 7, by Dr. Luther A. Weigle, of Yale Divinity School, president of the association. Churches all over the world were urged to hold special services Sunday, June 5, with prayers for the ultimate unity of the Christian Church under the proposed plan.

Dr. J. Quinter Miller began his duties on Sept. 15 as executive secretary of the field department of the Federal Council, succeeding Dr. Roy B. Guild, executive secretary emeritus. Dr. Miller for several years had been general secretary of the Connecticut Council of Churches and Religious Education. In his report at the biennial meeting in Buffalo, Dr. Miller referred to the proposed World Council and said: "The experience of cooperative unity in America is an important counterpart of this world trend." He foresaw the eventual organizing of "the Christian forces of these United States in State, city and local areas to cope with the religious needs and problems confronting our divided Church."

Following close after the national preaching mission which ended in December, 1937, officials in the department of Evangelism worked out in 1938 a plan for conducting a University Christian Mission, as an outgrowth, which was started Oct. 2. Groups engaged in student Christian work were organized on a broad basis by the Federal Council to help carry the Christian Gospel to 22 campuses. Mary E. Woolley, president emeritus of Mt. Holyoke College, was made honorary chairman and Dr. John A. Mackay of Princeton, chairman. Dr. Jesse M. Bader, secretary of the department of Evangelism was placed in charge. Preliminary plans were also announced for a World Preaching Mission to take place in 1940.

Under the department of the Church and Social Service, a committee on the Church and Co-operatives, formed late in 1937, entered 1938 with a grant of $1,500 from the Good Will Fund, Inc., established by the will of E. A. Filene of Boston who advocated in the last months of his life the organizing of co-operative stores. The committee announced early in the year it had sent a total of $1,450 in two checks realized from contributions at its invitation to a Christmas fund for Dr. Toyohiko Kagawa, Japanese Christian labor leader. The first check was for $1,000 sent for Christmas, 1937, the balance following.

STUDY OF COOPERATIVES

The committee was set up to promote the study of cooperatives among churchgoers throughout the country. Its work was strengthened by members of the Christian Cooperative Fellowship, who decided within a year after organizing as a tribute to the 1936 visit of Toyohiko Kagawa, to merge their activities with the Federal Council Committee, transferring their pledges to the new group. An added $1,000 was sought to meet immediate committee expenses. As the year closed a new drive was on both for funds for the basic work of the committee and for a second Christmas gift to Dr. Kagawa who had spent considerable time in Manchukuo in 1938 organizing cooperatives and preaching the Gospel. His American secretary, Helen M. Topping, spent six months in the United States telling of his continued labors and was able to add 1,000 names to the original mailing list of his friends, making 4,000 who were given a chance to send him money for Christmas.

Eight special conferences on the Church and Cooperatives were held in the United States in 1938, to which came Jews and Roman Catholics. The second annual tour of Nova Scotia Cooperatives from St. Francis Xavier University, Antigonish, N.S., brought out more than 200 visitors from the States, from other provinces in Canada, and from Jamaica, under the leadership of Dr. J. Henry Carpenter, chairman of the Council's new committee. On this tour were Roman Catholic priests as well as Jews. An interfaith conference on cooperatives and credit unions at Washington, D.C., Feb. 14–15 under the auspices of the National Catholic Welfare Conference Department of Social Action; the Social Justice Commission of the Central Conference of American Rabbis and the Federal Council's committee, was reported as the first of its kind in history. A similar one was held in Boston, Feb. 20–21.

A report was issued on the two conferences and a third at Columbus, O. attended almost entirely by pastors, differing in this respect from the others, which were largely attended by laymen. It was published in 5,500 copies as a special issue of the Information Service of the Council. The committee also extended its activities into the field of sightseeing among cooperatives in the United States, and preparing literature including a manual by Dr. Benson Y. Landis to be used in studying E. Stanley Jones' "The Choice Before Us" and one on "The Church and Cooperatives," work on which was begun by the Rev. Leon V. Kofod of the Methodist Church, Woodmere, L.I. Cooperatives were given emphasis also in the annual Labor Day message of the Federal Council of Churches and through a contact made with the Foreign Missions Conference of North America cooperatives became a subject of discussion at a World Missionary Conference Dec. 13–30, in Madras, India, where Dr. Kagawa was one of the speakers. Another special issue of the Council's Information Service, Nov. 26, 1938, contained a chapter from a special volume on cooperatives prepared for use at Madras. The Labor Day message reached a circulation of 53,000 copies, largest in the Council's history.

INTERNATIONAL AFFAIRS

Leaders in the Council joined Roman Catholics and Jews in a public statement on March 22 expressing concern over the status of minorities in Austria under Hitler by "expressing our profound abhorrence of the course of oppression and incitation, the denial of the rights of minorities, the restrictions on freedom of conscience and the arbitrary suppression of political and civic equality, already instituted in Germany and now being extended into Austria." An open letter to the churches of the world on the imprisonment of Dr. Niemöller was followed by a telegram to Chancellor Hitler, Church Minister Kerrl and Minister of Justice Gartner, from church officials in England, Sweden, Turkey, France and the United States. The telegram signers were: the archbishops of Canterbury, Upsala and Thyateira; Marc Boergner, president of the Protestant Federation of France, and William Adams Brown, chairman of the department of Relations with Churches Abroad of the Federal Council. The telegram in part, said: "We believe that many thousands of Christians all over the world who earnestly desire the friendship of Germany are with us in deploring this grave action against a German fellow-Christian released by his judges after a full trial and acquitted of the charge of 'underhand attacks' on the German State."

In preparing for the International Missionary Conference at Madras the last half of December, the Federal Council through its department of International Justice and Good Will together with the Foreign Missions Conference of North America had a document drafted on "The Alternative to International Anarchy" with a subtitle, "The Christian Contribution to Political World Order." The authors were Roswell P. Barnes, Leslie B. Moss, Vernon Nash, Luman J. Shafer and Florence G. Tyler. This document, running to 20 pages, analyzed political world power from the Christian standpoint by stating that the world needs a form of government under which nations would (1) "surrender the right to be sole judges in their own causes in international disputes; (2) abandon such offensive armaments as can be used to impose their wills upon other nations, delegating whatever police power is used among nations to a central representative agency; and (3) grant to a world political entity responsibility for the executive administration of such services as may be required to facilitate equitable change."

The statement closed with an appeal to churches: "Aside from the actions of political states, the Church can make its own contribution to improving the moral climate and working toward the ultimate establishment of a just and orderly world society by transcending national barriers through the missionary enterprise and through the ecumenical movement, by challenging the idea of national sovereignty and its expression in totalitarianism, and by resolutely advocating the world commonwealth of nations as required by its world view, its doctrine of the Church and by the exigencies of the present world situation."

The biennial report of the department of International Justice and Good Will of the Federal Council of Churches at Buffalo disclosed that "discouragement and confusion with regard to the international situation are leading many ministers and laymen as well as executives in the churches to turn more frequently" to the department. The report reiterated the Council's established stand "that America should assert a more aggressive leadership in co-operation with other nations to build an orderly world." The annual message of the department on Armistice Sunday was sent out as "a call for co-ordination of the missionary movement, ecumenical movement, and the peace movement in the churches." It set forth the bases of war and the bases of peace together with the world mission of the Church and its basic principles and objectives based on new phrasing of ideals time and again stressed in previous years. Churches were urged to study and act.

At the annual meeting of the World Alliance for International Friendship through the Churches, at the Palace Hotel, San Francisco, Nov. 7–11, an appeal was issued for support of efforts of the League of Nations and of private agencies in behalf of refugees and other victims of oppression. Particular stress was made in a condemnation of persecutions of Jews.

GOODWILL CONGRESS

About 2,000 persons attended an International Goodwill Congress running simultaneously with the annual meeting of the World Alliance in San Francisco, in cooperation with the Church Peace Union and the San Francisco Peace Council. About 200 addresses were given by speakers at the Congress in some 22 cities as they made their way across the continent. During the week of Armistice Day in the San Francisco Bay area about 100 meetings were held in churches, schools, colleges and clubs at which the leaders of the Congress also spoke. A three-day institute on Roads to Peace was held at Ripon College, Ripon, Wis. Oct. 25–27 by the Church Peace Union which served as an experiment intended to be carried out at other colleges.

HOME MISSIONS

The Council of Women for Home Missions opened in December near Port Norris, N.J., a social centre for the relief of migratory workers, which brought the total of such projects to 50. The objectives included reduction of child labor, raising of moral and health standards and the educating of parents. The Council also started in 1938 the first of an annual series of May Day luncheons, to be held nationally, the 1938 group totaling 400 gatherings of women of all religious denominations. The date for 1939 was set for May 4. Mrs.

F. E. Shotwell became Western Supervisor in migratory work filling a vacancy caused by the death on March 15 of Adela J. Ballard.

The thirtieth anniversary of the Council of Women for Home Missions and the Home Missions Council, was celebrated jointly in New York City Jan. 9–12 with about 250 delegates present from 28 denominations in the United States and Canada. A review of the work of the two bodies was given. Mayor La Guardia was among the speakers. Others were Dr. Charles E. Schaeffer who gave the anniversary dinner address; Mrs. Millard L. Robinson, retiring president of the women's group; Dr. Robert W. Searle, executive secretary of the Greater New York Federation of Churches, and Dr. E. D. Kohlstedt, president of the Home Missions Council.

FOREIGN MISSIONS

The annual meeting of the Foreign Missions Conference of North America, was held in Toronto Jan. 3–6. The major theme was the conflict in the Far East and how to obtain adequate relief for sufferers in China. A special committee was named to work on the problem with the Federal Council of Churches. Dr. Luman J. Shafer of the Board of Foreign Missions of the Reformed Church in America spoke on the relation of the missionary movement to world peace. He submitted a series of recommendations that were adopted. The general substance of their import was summarized in an opening paragraph and stated in specific terms in ten sub-paragraphs. The opening statement of summary was: "That we believe the complete solution of the Far Eastern and all similar difficulties and conflicts can be achieved only by the creation of a world community, free from racial discrimination, based on economic justice and fair opportunity for all, animated by goodwill and governed by law. Such an ideal demands the cooperation of all the leading powers, and we express the view that our governments should bear their full share of the responsibility for the erection and maintenance of such a new world order. However distant the realization of this ideal may be, it may at once give direction to our efforts and we may strive to move steadily forward toward its achievement."

AMERICAN ASSOCIATION OF THEOLOGICAL SCHOOLS

A plan to set up a system of accrediting standards to raise the level of scholastic work in theological seminaries, undertaken in 1936, was the subject of a report at the eleventh biennial meeting of the American Association of Theological Schools in June in Toronto. This brought concrete results when on Dec. 17 the Association announced that 49 seminaries out of a membership of 79, had been listed as meeting the newly chosen standards, with certain exceptions, by the commission chosen to complete a survey and determine the standings of the institutions reporting. Notations were entered after such institutions as had improvements to make to meet full standards. These related to various phases of scholastic functions, such as admission requirements, length of course and graduating standards, fields of study and curriculum balance, faculty, library facilities, physical equipment, finances and general tone. The first listing resulted from investigations following the 1936 meeting, and constituted the first such united effort among Protestant theological schools of differing backgrounds. The accrediting commission was continued as a permanent body, consisting of ten members with six-year rotating terms. The first standard required that an applicant for admission to a theological seminary have an A.B. degree or equivalent; the second that accredited theological schools offer a course leading to a B.D. degree or its equivalent.

WORLD YOUTH CONFERENCE

Sixty youth leaders met in Bièvres, France Aug. 2–6 to lay plans for a World Conference of Christian Youth in Amsterdam, Holland, July 24 to Aug. 2, 1939. Represented were churches, the Y.M.C.A., Y.W.C.A., World's Student Christian Federation, the Ecumenical Youth Commission of the World Alliance for International Friendship through the Churches, and the Provisional Committee of the Proposed Council of Churches.

THE ROMAN CATHOLIC CHURCH

By Charles A. McMahon

Editor, *Catholic Action*

LEADING EVENTS IN THE UNITED STATES

Events of interest and importance to Catholics have seldom been more numerous or more varied than they were in 1938. The American Hierarchy proclaimed in vigorous terms a "Catholic crusade" for "true Christian democracy," rallying the full resources of the Catholic schools to a powerful campaign for a "Christian concept of citizenship." The Bishops warned gravely of subversive teaching and action in the United States which, they said, seek to "destroy all that is just and ennobling in liberty-loving America." The letter brought out "the American Hierarchy's traditional position of unswerving allegiance to our free American institutions."

The Catholic University of America inaugurated observance of its golden jubilee, instructed by Pope Pius XI to "evolve a constructive program of social action, fitted in its details to the local needs, which will command the admiration and acceptance of all right-thinking men."

Beatification of Blessed Frances Xavier Cabrini at the Vatican Nov. 13 marked the first time an American citizen has been so honored by the Church, and His Eminence George Cardinal Mundelein, Archbishop of Chicago, who officiated at these ceremonies, became the first Prince of the Church to assist at a person's funeral and beatification.

Death of His Eminence Patrick Cardinal Hayes, Archbishop of New York, Sept. 3 was an occasion of sadness not only to Catholics but to Americans generally. It was estimated that 250,000 people viewed the Cardinal's remains lying in state in St. Patrick's Cathedral. Bishop Thomas J. O'Reilly of Scranton died on March 25; Bishop Joseph J. Rice of Burlington, Vt., on March 31; and Bishop Thomas F. Lillis of Kansas City, Mo., on Dec. 29.

The Eighth National Eucharistic Congress, held at New Orleans, was a magnificent demonstration of Faith, with more than 100,000 persons taking part in the great procession in honor of the Blessed Sacrament.

Revision of the Douay-Rheims version of the New Testament was completed in 1938 and placed in the hands of the Editorial Board of the Catholic Biblical Association of America. Contributions to the Society for the Propagation of the Faith increased over the year before, and the Catholic Church Extension Society reported an exceedingly vigorous year, building or repairing 75 mission chapels and parish buildings as part of its accomplishments. Lay organizations reported steady, healthy growth and manifested impressive vitality through their varied activities.

Catholic charities enjoyed continued expansion, hospital facilities being extended notably. When the Interdepartmental Committee to Coordinate Health and Welfare Activities met in Washington, the Rev. Alphonse J. Schwitalla, S. J., president of the Catholic Hospital Association, urged that the principle of mutual understanding and cooperation between public and private health agencies prevail in any national health program to be set up.

The Bishops of the United States and prominent Catholic priests and laymen frequently denounced the persecution of the Jews, and spoke out in warning and condemnation against subversive radical propaganda prevalent in the United States.

The Legion of Decency continued

its work, and the Bishops took steps to put the campaign against salacious reading matter on a national scale. The Catholic press waged a coast-to-coast drive against the flood of obscene publications.

Catholics in the United States, and non-Catholics as well, responded heartily to the plea of Pope Pius XI for prayers for peace. The Encylicals of Pope Leo XIII "On the Condition of Labor" and of Pope Pius XI on "Reconstruction of the Social Order" continued to be stressed from Catholic pulpits and platforms. Study clubs, the Confraternity of Christian Doctrine, spiritual retreats, literary, dramatic and recreational undertakings, the Catholic Evidence Guild movement, civic education, Catholic rural life work, the religious vacation school program, the work for the promotion of wholesome family life, all grew noticeably in 1938.

The immigrant problem, especially as it related to refugees from Germany, was a general concern of Catholics in the United States and particularly of the Bishops during the year. The N.C.W.C. Committee for Catholic Refugees from Germany, headed by Archbishop Joseph F. Rummel of New Orleans, brought the plight of these refugees to public attention.

Catholics of the world, who now total 400,000,000 according to one estimate, were not alone in their joy when Pope Pius XI, stricken with a serious illness, recovered with amazing rapidity in November. There was happiness in the Catholic world, too, for the success of the International Eucharistic Congress at Budapest, Hungary, and for great national demonstrations of faith in Canada, France, India, Australia, New Zealand, and other places.

The continued persecution of religion in Russia, Spain, and Mexico was a cause for sorrow. The cruel religious and racial persecution in Germany was a matter of deep concern. Discriminatory laws in other sections caused some concern as, for example, the regulations promulgated in Greece to make conversions virtually impossible.

In the United States, where the Catholic population was put at 21,451,460, the creation of the new Diocese of Lansing, Mich., brought the number of Sees in continental United States to 112, of which 19 are Archdioceses and 93 Dioceses.

NATIONAL CATHOLIC WELFARE CONFERENCE

The Administrative Board of the National Catholic Welfare Conference issued a warning in the summer of 1938 against participation by Catholic youth groups in the Second World Youth Congress at Vassar College, asserting that this meeting would "provide an opportunity for the fostering of irreligion and the promoting of the class hatred of Sovietism."

Establishment of industrial and social peace in the United States, that "we may thus contribute to a lasting peace among all nations," was urged in a statement issued by the N.C.W.C. Administrative Board in October.

The General Meeting of the Bishops of the United States in October authorized the establishment of a National Catholic Youth Council in the N.C.W.C. where a central office of Catholic information also was launched. The Bishops extended "profound sympathy" to the Austrian Hierarchy, authorized the Committee for Catholic Refugees from Germany to include Austrian refugees in its work, and announced that the North American College in Rome would be rebuilt on its present site.

While Congress was considering a measure looking to the reorganization of the administrative branch of the Government, Right Reverend Monsignor Michael J. Ready, General Secretary of the N.C.W.C., issued a statement saying that unless the bill conferred administrative control on Federal educational agencies there would be no reason to believe that Catholic interests as such would be concerned in the legislation. Shortly afterward, there was read in Congress a telegram to President Roosevelt from His Eminence George Cardinal

Mundelein, Archbishop of Chicago, stating that he could not find "that the welfare or freedom of the Catholic Church is in any way menaced by the pending Reorganization Bill."

That taxpayers be permitted to exempt a higher percentage of gross income for contributions to the support of educational, charitable, religious and similar organizations, was urged in a letter which Monsignor Ready submitted to the Senate Finance Committee, when it was considering the revenue bill.

The Administrative Board of the N.C.W.C., elected in 1938, organized as follows: Archbishop Edward Mooney of Detroit, Chairman; Bishop John B. Peterson of Manchester, N.H., Vice Chairman and Episcopal Chairman of the Department of Education; Bishop Francis C. Kelley of Oklahoma City and Tulsa, Treasurer and member of the Finance Committee; Bishop John A. Duffy of Buffalo, Secretary and member of the Finance Committee; Archbishop Samuel A. Stritch of Milwaukee, Episcopal Chairman of the Department of Catholic Action Study; Archbishop Joseph F. Rummel of New Orleans, Episcopal Chairman of the Department Lay Organizations; Bishop Edwin V. O'Hara of Great Falls, Episcopal Chairman of the Department of Social Action; Bishop John Mark Gannon of Erie, Pa., Episcopal Chairman of the Press Department; Bishop Hugh C. Boyle of Pittsburgh, Episcopal Chairman of the Legal Department, and Archbishop John Gregory Murray of St. Paul, member of the Finance Committee.

Assistant Bishops to the Administrative Board are: Bishops Edward F. Hoban of Rockford, Ill.; Emmet M. Walsh of Charleston, S.C.; Karl J. Alter of Toledo, O.; Francis P. Keough of Providence, R.I.; Walter A. Foery of Syracuse, N.Y., and Bartholomew J. Eustance of Camden, N.J. Monsignor Ready was again named General Secretary. The Rev. Dr. Howard J. Carroll of Pittsburgh was named Assistant to the General Secretary.

DIOCESAN CHANGES

Bishops Francis J. Tief of Concordia and Timothy Corbett of Crookston, Minn., resigned their Sees because of ill health.

Archbishops John J. Cantwell of Los Angeles, John A. Floersh of Louisville and Thomas J. Walsh of Newark received the Pallium of 1938. Bishop Stephen J. Donahue, Auxiliary to Cardinal Hayes, was named Administrator of the Archdioceses of New York following the Cardinal's death. Bishop Eugene J. McGuinness, who had been consecrated toward the close of 1937, was installed as Bishop of Raleigh, and Bishop Thomas H. McLaughlin, Auxiliary Bishop of Newark, was installed as the first Bishop of Paterson. Bishops Francis R. Cotton of Owensboro, Ky., William F. Murphy of Saginaw, Bartholomew J. Eustace of Camden, Matthew F. Brady of Burlington, Frank A. Thill of Concordia, Kans., John H. Peschges of Crookston, Minn., Stephen S. Woznicki, Auxiliary Bishop of Detroit, and William A. Griffin, Auxiliary Bishop of Newark, were consecrated during 1938.

His Excellency Archbishop Amleto Giovanni Cicognani, Apostolic Delegate to the United States, spoke at various points throughout the country in 1938, lending his personal encouragement to worthy Catholic works. The marvelous growth of Catholicism in New Jersey is a "moral miracle," His Excellency said, when he read the Apostolic Bulls creating the State of New Jersey an Ecclesiastical Province. Archbishop Cicognani thanked the Knights of Columbus "for what they have accomplished, what they are accomplishing, and what they will do for Church and country, especially to the benefit of youth and good example of Christian virtues." In a letter to the 28th annual convention of the Catholic Press Association of the United States he expressed the hope that the Catholic press would become an increasingly potent instrument for combating "error and indecency in every form." He told the Fourth National Catechetical Congress at Hartford that "the family and the home" are suffering a pronounced decline.

THE POPE

Pope Pius XI exhibited a fearless leadership in 1938, declaring that "no one can reproach Us with the charge that We failed to speak to mankind when it was necessary to save that which must be saved in the social, domestic and individual order," and affirming his determination to "spend what remains of life in indicating evils and suggesting remedies."

In receiving Ecuador's new Minister to the Holy See on March 18, Pope Pius said: "In all Our relations with different countries and different peoples Our only aim is the spiritual good, that good which is the basis and crown and sanction of all other goods."

Pope Pius spoke out over a dozen times in four months against the persecution of the Jews. He denounced exaggerated nationalism as "a real malediction," and rebuked those who sought to injure Catholic Action. He declared it to be "a vain trap" for persons to pretend they could attack Catholic Action without attacking the Church. "Catholic Action is Catholic life and cannot be separated from the Church," His Holiness said.

Pope Pius spoke out repeatedly on the harmony that should exist between religion and real science, and himself made use of the magic of radio on half a dozen occasions to speak to the world. On one of the occasions, as war clouds hovered over Europe, he asked the world to join with him in prayer for peace.

The Holy Father branded as "a lie, a lie, a lie," the charge by Nazis in Germany that the Church is "in politics." The Holy See and the Pope have no other politics than "the glory of God and the salvation of souls," he said.

THE VATICAN

The death of five Cardinals, while no new ones were being created, brought the total membership of the Sacred College down to 64 at the close of 1938. His Eminence Carlo Cardinal Salotti was named Prefect of the Sacred Congregation of Rites, and His Eminence Luigi Cardinal Maglione was named Prefect of the Sacred Congregation of the Council. His Eminence Federico Cardinal Tedeschini was appointed Apostolic Datary, and His Eminence Giuseppe Cardinal Pizzardo was named President of the newly formed Central Office of Catholic Action.

Ecclesiastical jurisdiction over certain countries in the Near East was transferred from the Sacred Congregation for the Propagation of the Faith to the Sacred Congregation for the Oriental Church.

The Sacred Congregation of the Sacraments issued instructions on the diligence to be employed in safeguarding the Holy Eucharist.

The "calumnies and most baneful doctrines" of Racism were vigorously condemned in a letter which the Sacred Congregation of Seminaries and Universities sent to all its dependent institutions in the course of the year.

Three new Saints were proclaimed on Easter Sunday. They are Saint Andrew Bobola, St. Giovanni Leonardi and St. Salvatore of Horta. In addition to Blessed Frances Xavier Cabrini, Blessed Marinia Dominica Mazzarello and Blessed Mary Joseph Rossello were beatified in November.

The annual report of the Sacred Roman Rota showed that of the application for decrees of nullity coming before it, less than one-fourth of the petitions were granted where the causes had to do with the marriage form, and that less than half of all other cases were favorably entertained.

It was denied at the Vatican that a dispensation from the impediment *disparitatis cultus* (a dispensation for the marriage of a Catholic and a nonbaptized person) was ever asked of the Vatican for the marriage of King Zog of Albania, a Moslem, and Countess Geraldine Apponyi of Hungary, a Catholic. The marriage was said to be purely a civil one, a fact held at the Vatican to be deplorable.

CATHOLIC EDUCATION

A total of 2,542,500 students enrolled in 10,310 Catholic schools in the United States in September, 1938. There were 89,825 teachers in the Catholic school system. The number of elementary school pupils was put at 2,075,000. They were in 7,929 separate elementary institutions. The 1,984 Catholic high schools were estimated to have a total enrollment of some 300,000. Twenty-three universities, 56 colleges and 105 colleges for women under Catholic control were attended by 140,000 students. Some 10,500 students were enrolled in 41 diocesan teachers colleges and normal schools, while there were 8,000 students in 93 major seminaries, and 9,000 in 79 preparatory seminaries.

Voters in New York put into their constitution a provision guaranteeing to the pupils attending private and parochial schools, the right to the same free school bus transportation afforded to pupils in tax-supported public schools. The voters also indorsed another amendment to the constitution making health services equally available to the pupils of all schools.

The New York State Catholic Welfare Conference, representing the seven Catholic dioceses in the State, sought no change at the time in the constitutional provision prohibiting State aid to denominational schools.

THE CHURCH IN CHINA AND JAPAN

The safety of missionaries in China was a constant concern of Catholics in 1938. A French priest, the Rev. Joseph Sontag, S. J., was killed by an irresponsible soldier, and an American priest, the Rev. William J. Downs, M.M., was wounded when a bomb struck and demolished his home in Swatow. The Rev. Gerard A. Donovan, M.M., another American priest who had been kidnaped by bandits in 1937, was found murdered.

The fact that the Vicariate Apostolic of Shanghai sustained damage to the extent of more than $2,000,000 indicates something of the great loss Catholic Missions in China have suffered. At the same time, the Chinese Catholic War Relief had expended more than $115,000 long before 1938 was over, and 5,000 Catholic priests, 6,000 sisters, 1,500 lay catechists and 15,000 students were formed into an "army of charity" which enabled a single mission station to harbor 30,000 refugees. As a manifestation of its appreciation of these charitable labors of the Catholic Missionaries, the Chinese Government published officially a booklet setting forth *The Work of the Catholic Church in War-Stricken China.*

Figures made public in May showed that there were 135 Catholic Missions in China and that there were 3,018,338 baptized Catholics and 517,423 catechumens.

The Most Rev. Peter Tatsuo Doi was solemnly consecrated the first native Archbishop of Tokyo, Japan, on Feb. 5, 1938. In Japan, where a bill was being formulated in 1938 to give Christianity a legal status equal to that of the Buddhist and Shintoist sects, the Catholic population was 111,870. The Catholic population of Korea was 143,212.

SPAIN

While the Vatican accorded formal recognition to Nationalist Spain in 1938, withdrawal of Leftist troops in the face of Nationalist advances gave further evidence of radical depredations, and greatly increased the estimates of damage done to ecclesiastical property. Churches and other religious edifices, already outraged by the uses to which they had been put, were dynamited by the Leftists as they had abandoned various points to the Nationalists.

Osservatore Romano in Vatican City made public a verified list of 1,324 Religious who were known to have been slain in Leftist-controlled Spain. It was made clear that this did not by any means represent all the Religious who had been killed, and did not represent the 6,000 or more members of the diocesan clergy who had been put to death. The *Pro Deo* International Commission said in November that 25,879 religious structures in 37 dioceses had been destroyed or profaned by Spanish Leftists.

Bishops John Mark Gannon of Erie, Pa. and Karl J. Alter of Toledo, O., and Monsignor Ready, returning from European trips that included visits to Spain, deplored the fact that "vicious Red propaganda" was giving the American public "a blurred picture" of the situation in Spain, and that the American people are being "grossly misled" by press reports from Spain. Bishop Alter said the people in Nationalist territory had urged him to make clear to the American people that the struggle in Spain is "a war to save religion, morality and civilization itself."

Monsignor Ready, in March, 1938, contrasted the expressed abhorrence of Secretary of State Cordell Hull over the deaths of several hundred people in the aerial bombardment of Barcelona with the Secretary's "complete silence" when "not hundreds but many thousands of priests and Religious are wantonly murdered" in that same country.

GERMANY

The position of the Church, of all religion, in fact, continued to grow steadily worse in Germany in 1938. The Nazis prevented Catholics of Germany and what was Austria from attending the International Eucharistic Congress in Budapest, Hungary. The forceful expulsion of Bishop Johannes Sproll from the Diocese of Rottenburg because he refused to vote on the "anschluss"; the vicious attacks upon the residences of His Eminence Michael Cardinal von Faulhaber, Archbishop of Munich, and of His Eminence Theodore Cardinal Innitzer, Archbishop of Vienna, were the clear results of Nazi incitements against the Catholic Church. The gap between Catholic and Nazi doctrines came clearly to light with the promulgation of the Reich "Law for the Unification of Marriage." *Osservatore Romano* stated this measure represented the annihilation of the individual and his complete abandonment to the arbitration of collectivity represented by the State.

As early as March, 1938, 95 per cent of the German Catholic youth organizations had been suppressed. By September, it was clear the German Hierarchy had been forced to a position where it had to refrain from further efforts for conciliation with the Government of the Reich.

Anton Lang, who portrayed the Christus in the Oberammergau Passion Plays of 1900, 1910 and 1922, died in Munich on May 18.

Vicious rumors were spread broadcast against the Austrian Hierarchy following the "anschluss." It was said there was dissatisfaction among them and that a "national Catholic German Church" was to be established. Another report had Cardinal Innitzer resigning his See. These reports were quickly and thoroughly repudiated.

MEXICO

In Mexico there was no change in the drastic Federal anti-religious laws during 1938 despite the fact that the Governor of Oaxaca relaxed somewhat his stringent limitation of the number of priests permitted to work in his State and despite the fact that Catholic Action was reported to have progressed in the face of difficulties and the Bishop of Tobasco was allowed to return to his See for the first time in many years. In fact, an amendment to the Constitution introduced toward the end of 1938 would tighten further the pressure already put on the Catholic Church.

Thirty-one students returned to Mexico from Montezuma Seminary near Las Vegas, New Mexico to receive ordination and to take up their priestly duties in their native country. They represented the first fruits of the seminary founded by the Hierarchy of the United States for the training in the United States of Mexican candidates for the priesthood. Mexican law makes it impossible to maintain a seminary on Mexican soil.

CANADA

The great First National Eucharistic Congress held in Montreal in June and the arrival in September of

Archbishop Ildebrando Antoniutti, new Apostolic Delegate, were among the highlights of the year in Canada. His Eminence Rodrigue Cardinal Villeneuve O.M.I., Archbishop of Quebec, was Papal Legate to the Eucharistic Congress. Returning from the Vatican where he reported to Pope Pius XI on this great demonstration of Faith, he said "the Church in Canada is now considered by the Holy See as one of the jewels of Christianity." Pope Pius addressed the pilgrims to the Eucharistic Congress by radio from Vatican City on June 26.

The constitution for a National Catholic Youth Union of Canada, representing more than 185,000 individuals in more than 200 affiliated organizations, was adopted at a meeting in Ottawa in October.

The Archbishops and Bishops of British Columbia memoralized the Royal Commission on Dominion Provincial Relations on "the present unfair inequality" under which the Catholic minority of the Province of British Columbia labors in matters of education.

LATIN AMERICA

There were numerous interesting Catholic developments in Latin American countries in 1938. Several countries sent new diplomatic representatives to the Holy See. The Bishops of Bolivia warned their people against subversive propaganda so prevalent today, and called upon them to vote for patriots in their country's elections. Argentina proceeded with the raising of funds to erect a cross which will be a permanent memorial of the Thirty-second International Eucharistic Congress, held at Buenos Aires. National committees had been formed in 14 countries to raise funds for the Columbus Lighthouse Memorial to be erected near Ciudad Trujillo in the Dominican Republic.

To Pope Pius XI and his representative, Archbishop Marilio Silvani, Papal Nuncio to Haiti, are due the credit for bringing about peaceful settlement of the bloody dispute between Haiti and the Dominican Republic.

The Very Rev. John F. O'Hara, C.S.C., President of the University of Notre Dame, and Prof. Charles G. Fenwick of Bryn Mawr College, President of the Catholic Association for International Peace, were members of the American delegation to the eighth Pan American Conference in Lima.

FRANCE

France observed in 1938 the 300th anniversary of its consecration by King Louis XIII to the Blessed Virgin. The act of consecration was renewed in all parishes.

Some 200,000 persons took part in a Marian Congress at Boulogne, and thousands of pilgrims came from many distant places for the ceremonies that signalized the completion of the restoration of Rheims Cathedral. This restoration, requiring 20 years of labor, cost 37,000,000 francs, a considerable part of which was contributed by John D. Rockefeller.

His Eminence Jean Cardinal Verdier S.S., Archbishop of Paris, said the relations between Church and State in France "are better than they have been for 30 years." Camille Chautemps, one of the leaders of the radical party of Emile Combs, said "the conflict between Church and State belongs to the past."

Christian Labor Unions opposed and did not join in the general strike which confronted France toward the end of the year. When the strike collapsed in the face of strong government action, the Christian Labor Unions were vindicated and the Communists and other radicals were dealt a severe blow.

ENGLAND

His Eminence Arthur Cardinal Hinsley, Archbishop of Westminster, returned to England as a member of the Sacred College early in 1938. Toward the close of the year it was announced that England was to have an Apostolic Delegate. Archbishop William Godfrey, formerly rector of the English College in Rome, was chosen for this office.

Catholics and others made vigorous protest against an Atheist Congress scheduled to be held in London in September. The Home Secretary said he had no power to ban the meeting.

Catholic Action organization was well advanced in England during 1938.

IRELAND

The world hailed as a great lesson in religious tolerance the fact that Ireland, a Catholic country, in choosing its first President, elected a Protestant, Dr. Douglas Hyde. Both great political parties in the country united to make the choice.

The one hundredth anniversary of the temperance campaign was observed in Ireland in the Father Mathew Centenary.

A great statue of St. Patrick was blessed on the site of his first missionary landing near Saul, Down County, and it was announced that a new Catholic Cathedral in Dublin, the first since the "Reformation," would be built.

ITALY

In Italy, where Pope Pius XI had rejoiced in the good position of the Church at the beginning of the year, *Osservatore Romano* complained in November that provisions of the new Italian marriage law violated that country's Concordat with the Holy See. Almost immediately the same paper was able to announce that King Victor Emmanuel III had given assurance to Pope Pius XI that efforts would be made to meet the Holy See's objections to the marriage law provisions.

Pope Pius spoke out with vigor against the display of the swastika in Rome on the occasion of Adolf Hitler's visit to Premier Mussolini. His Holiness pointed out that, on a day dedicated to the Holy Cross, there was raised up in the Eternal City another cross "which is not the Cross of Christ."

BELGIUM

When King Leopold III of Belgium and the royal children witnessed a pageant held in Malines last summer in honor of Our Lady of Hanswijk, they were observing a tradition that has endured since 988. This pageant is held every 25 years.

His Eminence Joseph Cardinal Van Roey, Archbishop of Malines, condemned Racism as nothing more than the expression of low materialism, and a Communist congress at Ghent which pretended to offer the "outstretched hand" to the Flemish Catholics met with very little if any success.

First steps were taken in Belgium looking to the beatification of its native son, Father Damien, Apostle of the Leper Colony at Molokai.

THE EASTERN CHURCHES

By E. R. Hardy, Jr.

General Theological Seminary, New York

CARPATHO-RUSSIANS (UKRAINIANS. RUTHENIANS)

The chief new development in American Orthodoxy during 1938 was the organization of a new jurisdiction for Carpatho-Russians formerly in union with Rome. On Feb. 4, 1936, 59 parishes, withdrawing from the jurisdiction of the Ruthenian Uniat Bishop, the Rt. Rev. Basil Takach, held a Sobor at Pittsburgh, Pa., and elected as their Bishop the Rev. Orestes Chornock of Bridgeport (see The American Year Book, 1937). The Oecumenical Patriarch, Benjamin I, recognized the "Carpatho-Russian Greek Catholic Diocese of the Eastern Rite for the United States," and directed the Bishop-elect to be consecrated with the title of Bishop of Agathonikeia in the patriarchal jurisdiction. The term "Greek Catholic" has been the subject of litigation in courts in Pennsylvania and New York, which have decided it may properly be used by Orthodox as well as Uniat Ruthenians. Bishop Orestes was consecrated at St. George's, Constantinople, Sept. 18, 1938 and enthroned at St. John's, Bridgeport, Nov. 25 in the presence of a large gathering of clergy and laity. Archbishop Athenagoras of the Hellenic Orthodox Church officiated on behalf of the Patriarch, assisted by his auxiliary, Bishop Athenagoras, Bishop Bohdan of the Ukrainian Orthodox Church, and Archbishop Adam of the Carpatho-Russians formerly connected with the Russian Church.

All Ukrainians, whether Uniat or Orthodox, are deeply concerned in the fate of their fellow-countrymen in Poland and Czecho-Slovakia. Interpellations in the Polish Parliament July 6 and 21 complained that Orthodox Churches have been destroyed or transferred to the Roman Catholic Church, the clergy fined or imprisoned, in other cases compelled to conduct services and even to converse at home in Polish, and Ukrainian schools and organizations suppressed. Meetings of protest were held in America. At the conference of priests of the Ukrainian Orthodox Church held in New York Dec. 9 resolutions were passed attacking the "acts and the policy of the Polish government directed against the Ukrainian people and their Church in Poland as unchristian, uncivilized and inhuman."

RUSSIAN ORTHODOX CHURCH

Several meetings of the Episcopal Sobor were held during the year, mainly devoted to the question of the relation of the Russian Church in America to the synod of the Russian Church Outside of Russia, meeting at Karlovtsi in Jugoslavia. Owing to various disagreements the Carpatho-Russian group under Archbishop Adam withdrew from its connection with the Russian Orthodox Church under Metropolitan Theophilus. For those Russians who acknowledge the authority of the Church in Russia, Bishop Benjamin was in August designated as Metropolitan.

A beginning was made in a scheme for training students for the priesthood in New York. The young men involved are to be instructed in theology by clergy of the Russian Church while studying in the department of Slavonic languages at Columbia University.

HELLENIC ORTHODOX CHURCH

The Archimandrite Cavadas was consecrated to the episcopate in Boston June 5 under the name of Bishop Athenagoras. He is to act as auxiliary to Archbishop Athenagoras, especially for New England, continuing in charge of the junior seminary at Pomfret, Conn. Bishop Athenagoras presided at the blessing of the water on the Feast of the Epiphany Jan. 6, 1939 at Tarpon Springs, Fla. at which Bishop Policarp of the Rumanian Church was also present. The annual ceremony was attended by some 18,000 Greeks and others.

OTHER ORTHODOX CHURCHES

In the Syrian Orthodox Church considerable work is being done on the preparation of prayer books, works of instruction, and Sunday School lessons in English, as English is the mother tongue of the generation now growing up in America. The *Book of Divine Prayers and Services,* published during the year (1,142 pp.), for the use of clergy and choirs, contains the parts of the Liturgy and offices which are said aloud or sung, together with private prayers and instruction. It was issued with the approval of Archbishop Antony Bashir, and it is believed to be the first practically complete Orthodox service book in English.

During 1938 Bishop Andrea of the Bulgarian and Bishop Damaskinos of the Serbian (Yugoslav) Church arrived in America. The Bulgarian diocese is new, while the Serbian Bishop replaces Bishop Mardary, who died in 1935.

ORTHODOX CHURCHES ABROAD

The Church of Greece suffered a great loss in the death Oct. 22 of Mgr. Chrysostom, Archbishop of Athens since 1923. Born in 1868, he had studied in Greek and Russian schools of theology, and before his elevation to the episcopate he had held the positions of head of the theological seminary and afterwards professor of Ecclesiastical History at the University of Athens. He was the author of learned works on church history and other subjects, and was responsible for the establishment of theological periodicals at Jerusalem and Athens. As Archbishop he labored for the intellectual and spiritual progress of the Church, being specially interested in the revival of preaching. It is reported that the Premier of Greece, General Metaxas, has assumed charge of the ministry concerned with church affairs, with the purpose of exercising a more extensive control over the Church.

The Government of Yugoslavia finally decided to abandon the proposed concordat with the Vatican, which had aroused strong opposition among the Orthodox on account of privileges granted in it to the Roman Catholic minority. Consequently it was possible to hold the election of a successor to the late Patriarch Barnabas, which had been prevented by the dispute between the Church and the Government. On Feb. 21 the electoral council (of Bishops, Orthodox cabinet members, and delegates of clergy and laity) designated three candidates, and the Regency accepted the candidate who received the largest number of votes, the Metropolitan Gabriel of Montenegro.

A draft proposal of administrative reform for the Patriarchate of Jerusalem was issued by the Government of Palestine on July 21, increasing and defining the rights of the Arab-speaking laity. As yet it has not been accepted, and the tension between the Patriarch Timotheus and the "Arabophones" continues. In Rumania it has been decided to allow the use of Church Slavonic, instead of Rumanian, in church services in the former Russian province of Bessarabia.

The anti-religious campaign in Russia took the form, late in 1937 and early in 1938, of an effort to estrange the laity from the clergy by political charges against the latter. On the other hand, the Union of Militant Godless itself suffered severely from the "purge" of the winter, and at its annual meeting in February, 1938 the secretary admitted considerable disorganization and inactivity of branches. More anti-religious propaganda has been taken on, however, by the Communist Party itself, and courses for propagandists have been organized. Partial statistics published in *Antireligioznik,* April, 1938, indicate the existence of about 19,200 Orthodox parishes, as compared with some 55,000 before the Revolution. Of these some 75–80 per cent adhere to the Metropolitan Sergius, *locum tenens* of the Moscow patriarchate. There has been a tendency for dioceses or even parishes to break away from the central ecclesiastical authorities. It is evident that the Churches are still being supported but the future must remain uncertain.

In the Russian Church outside Russia a new diocese was organized for Germany under Bishop Seraphim. The 950th anniversary of the conversion of St. Vladimir was widely celebrated both in Europe and in America.

RELATIONS WITH OTHER CHURCHES

At the Utrecht Conference, May 9–13, there were several Orthodox delegates, including the Rev. John Trattia of the Rumanian Church in America on behalf of American Orthodoxy. It is hoped that the proposed World Council of Churches will include the leading Orthodox bodies. Perhaps more significant was the admission of the Syrian Orthodox Church in America to the Federal Council of Churches in December. This represents both the first participation of Orthodoxy in the Federal Council and also the first extension of the membership of the Council beyond bodies commonly known as Protestant.

It must be remembered that there are elements in the Orthodox Churches desirous of closer contact with other, especially Anglican, bodies, and others which regard such movements with suspicion if not opposition. Progress must depend on the extension of personal and informal contacts even more than on formal conferences and meetings. An important agency in this direction is the Fellowship of St. Alban and St. Sergius, an outgrowth of Anglo-Russian student conferences. Its meeting at High Leigh, England July 5–8 was attended by Rumanian, Bulgarian, and Serbian as well as Russian Orthodox, and by German and Swedish Lutherans as well as Anglicans. The topic, "From Edinburgh to Lambeth," was concerned with the present state of movements for reunion. In connection with the exchange of English and Rumanian theological students the Bishop of Gibraltar visited several Rumanian seminaries in October.

ARMENIAN APOSTOLIC CHURCH

On Sept. 3–4 the (American) Armenian National Assembly met in New York. It elected as primate Archbishop Karekin Hovsepian who has been in America for some time as representative of the Catholicos of All Armenians. The election has not yet been confirmed, however, and the two American Armenian dioceses (New York and California) remain under the temporary administrators who have headed them since the assassination of Archbishop Tourian in 1934.

The Catholicos Khoren Mouradbegian, the head of the Armenian Church, died at Etchmiadzin, Soviet Armenia, in April. He had held office since 1932 and had been responsible for the achievement of reconciliation with the Catholicosate of Cilicia in 1933, and for the organization of celebrations of the 1500th anniversary of the Armenian translation of the Bible. A *locum tenens* is in charge of the Catholicosate for the time being. In the Republic of Lebanon the Catholicosate of Cilicia established during the year its Cathedral (the largest church in Lebanon), together with an official residence and seminary.

JUDAISM AND JEWISH COMMUNAL AFFAIRS

By Harry Schneiderman

Editor, *The American Jewish Year Book*

GENERAL

Far more than in previous years since the advent of the Nazi regime in Germany, events affecting Jews abroad absorbed the attention and engaged the energies of the Jewish community of the United States during 1938. The breath-taking increase in the unconscionable ruthlessness of the Nazi drive against the Jews of Germany, especially after the seizure of Austria and the subsequent assassination by a 17-year old Jewish youth of a German diplomat in Paris; the savagery of the maltreatment of Jews which followed that act; the indications, all too numerous and obvious, that the pestilence of Nazism had spread to Italy, to Poland, to Roumania, and to Hungary and had begun to infect other areas, even the democratic stronghold, Czecho-Slovakia; and, finally, the catastrophic deadlock in Arab-Jewish relations in Palestine—these developments, all of them symptoms of the breakdown of international morality, served to focus the attention of the American Jewish community, as of Jews in all other lands, as never before on Central Europe and the Near East.

The dark picture was somewhat brightened by unmistakable evidence of the awakening of western democracies to the fact that the Nazi anti-Jewish assault was the spearhead of an assault on civilizational values which lie at the very root of democratic liberalism. The widespread interest in the plight of actual and potential refugees from Germany and the vigorous intergovernmental efforts to find places of refuge were also factors which saved the situation from being utterly hopeless and desperate. Along with increased solicitude for the welfare of their brethren in lands of oppression, came a more widespread as well as more intense interest in the activities of domestic communal agencies of all kinds. Events of Jewish interest in Germany and happenings at home connected with them continued, during the year, to occupy the foreground of the overseas interests of American Jews, with events in Palestine, Poland, Roumania and Hungary following close.

AMERICAN REACTION TO EVENTS IN GERMANY

Again, as in previous years, American Jews were heartened and spurred on in their efforts to ameliorate the lot of their co-religionists overseas by indications that their fellow citizens viewed with abhorrence the policies and procedures of the Nazi German regime. Among these were the announcement Jan. 17 by 48 of the outstanding American book publishers that they would not participate in the 1938 International Congress of Book Publishers held in Leipzig in June; the resolutions adopted by the American Association for the Advancement of Science, at its annual meeting in Indianapolis late in December, 1937, expressing grave "concern" over the suppression of intellectual liberty, and denouncing the suppressor governments as "intolerable forms of tyranny"; the protest meetings held in various cities in connection with the fifth anniversary of Hitler's rise to power; the widespread outburst of indignation which followed the sudden and ruthless seizure of Austria, and the universal approval by American public opinion of the action of the State Department in convening the intergovernmental refugee conference held at Evian-les-Bains, France in August; the outcry of horror which followed the expulsion, without any prior notice, of thousands of Polish Jews from Germany in October; and, overshadowing all other manifestations of outraged human feelings, the unprecedentedly unanimous condemnation of the "spontaneous" anti-Jewish outrages in Germany which were truculently defended by Nazi leaders as a reprisal for the assassination on Nov. 7 of a secretary of the German Embassy in Paris by a crazed Jewish lad whose parents had been among the victims of that brutal expulsion.

EVENTS IN GERMANY

Events in Germany affecting the Jewish population during the year followed the same general course as those of the previous year but at a much accelerated tempo. Especially after the resignation of Hjalmar Schacht as Minister of Finance, in November, 1937, the Nazi authorities appear to have cast off all restraint in their drive to make living in Germany impossible for all Jews. After the conquest of Austria, the drive became even more ruthless and reckless than before. The events of the period, especially the Goering property registration decree, showed more clearly than ever before that the fanatically anti-Jewish elements in the Nazi party had definitely gained the upper hand, and that they were determined, cost what it may to the country, to complete the ruin of the Jews of Germany and place the resulting problem of preventing their annihilation on the doorstep of the civilized nations of the world for solution.

The restrictive measures were all-embracing and diabolically ingenious, and they were enacted with bewildering rapidity. Economic restrictions were aimed at those who were still able to eke out a miserable existence. Social restrictions were calculated to remove the last vestiges of civil liberties and to isolate the Jews from the rest of the community. The restrictive measures were usually accompanied by vituperative and slanderous Jew-baiting propaganda. At the same time, the press, the radio, the schools, public placards, and addresses at the various conventions and assemblages served as media for continuous and untiring preachment of the doctrine of hatred of Jews as a sub-human species.

In addition to official restrictions imposed by the civil authorities and by judicial interpretation by the courts, Nazi-minded businessmen also took steps to drive Jews out of industry and commerce, that is, to "aryanize" these fields. The process of "aryanization" has been going on ever since 1933, but until this year it was somewhat retarded because of the opposition of conservative elements who feared that too rapid ousting of Jews from business might cause serious economic dislocation. During the review period, however, such retardation appears to have ceased, and the "aryanization" process has begun to go ahead at great speed.

A worldwide sensation was caused when, on April 27, 1938, a decree was published signed by Wilhelm Goering, dictator in charge of promoting the four-year plan for German autarkie, requiring Jews owning property in Germany valued at less than 5,000 gold marks (about $2,000) to register it before June 30; Jews residing in Germany were required to register property abroad as well as in Germany. The fact that the decree was promulgated in the interests of the four-year plan led to speculation as to its purpose. This became clear after the assassination of Ernst vom Rath, a secretary of the German Embassy in Paris, by the Jew, Herschel Grynszpan, on Nov. 7.

On Nov. 10, an unprecedented wave of anti-Jewish violence, arson, looting, and destruction broke out all over Germany. On Nov. 12, the Nazi government issued a number of decrees, unequalled for severity, the most startling providing for the imposition of a collective fine of 1,000,000,000 marks ($400,000,000) upon the Jews of Germany. The execution of this decree, as was that requiring the registration of property, was placed in the hands of Goering, the commissioner for the Four Year Plan. It was obvious that the latter decree had been intended as preparation for some such step as the imposition of the collective fine. Other decrees, published Nov. 12, provided that Jews repair at their own cost the damage inflicted during the riots, that all insurance indemnities for such damage be confiscated by the state, that, after Jan. 1, 1939, Jews were to be barred from operating all retail businesses, and from visiting theatres, concerts, motion pictures, lecture and dance halls, and cultural exhibitions; a subsequent decree barred Jews from high schools and universities, to which they had theretofore had admission restricted by a *numerus clausus*.

POLAND

Although the disintegration of the position of the Jews of Poland continued during 1938, there were no such flagrant episodes as those which had aroused so much anxiety in the American Jewish community in 1937. The community was thus enabled to plan for ameliorative and constructive relief measures to halt to some small degree the rapid decline in the economic situation of the Jews of Poland resulting from the country's backward economy and, to an equal if not greater extent, from artificial factors such as government measures and hostile boycott agitation. Communal leaders were, however, deeply disturbed by the Government's continued agitation, especially in connection with international discussion of refugee problems, for the mass emigration of Jews as a "superfluous" population.

ROUMANIA

The reaction in the United States to events in Roumania centered about the six weeks rule of Octavian Goga as Premier, from the time of his appointment by King Carol on Dec. 28, 1937 to his forced resignation on Feb. 10, 1938. The unexpected appointment of Goga, one of Roumania's most outspoken Jew-baiters, filled Jews in the United States with grave fear for the welfare of their Roumanian co-religionists. The worst fears were justified when, immediately upon his accession to power, Goga launched a drive to deprive Jews of all their rights. His merciless persecution of an already harassed population, coupled with the brazenly false and misleading statements about his country's Jewish population which he released to the foreign press, outraged public opinion of this and other countries.

These tactics evoked resolutions in both the United States Senate and

House, requesting the President to communicate information concerning prospective edicts against Jews and other minorities in Roumania. Protests from Britain and France and serious economic dislocation at home gave King Carol the excuse for dismissing Goga, whom he had appointed to take the wind out of the sails of Codreanu, leader of the Iron Guard, who aimed to be Roumanian Fuehrer. The headlong rush to degrade the Jews, after the example of Nazi Germany, was stayed but not stopped; it lost the sensational features which had made it an international scandal.

ITALY

That Goga's course should have evoked the applause of German Nazis was quite nautral; but the fact that it was ostentatiously approved by the semi-official press in Italy was regarded as ominous by American Jews, despite the repeated assurances of Il Duce that an anti-Jewish policy would not be espoused by Fascist Italy. The obviously "managed" and government-abetted press campaign, begun in September 1936, gained momentum during 1938. It was clear that the barrage of Jew-baiting utterances was preparation for a major attack. This came in July when, to the perplexed amusement of the scientific world, a group of Italian university professors announced a great discovery. Briefly stated, this was that the Italian people are "Aryans" and Europeans, that Jews are Asiatics, hence unassimilable, and that Italians should preserve their "European traits" by refraining from "cross-breeding" with "non-European races." (According to the census of 1936 there were 47,825 Jews in Italy in a total population of 42,527,561.) This "momentous goose-step" along the road of the (Rome-Berlin) axis was followed by others: expulsion of Jews who had entered Italy since Jan. 1, 1919; the revocation of the naturalization of such Jews; the dismissal of Jews from teaching staffs of all schools, state and non-state, from economic institutes, and from scientific, literary and artistic associations; segregation of Jewish children in state schools; and similar measures of increasing severity. There was even a public book-burning in Rome in October.

These events were noted with keen sorrow by all thoughtful American Jews who saw themselves powerless to aid their Italian co-religionists. Protests would undoubtedly be seized as pretexts for further oppressive measures, albeit these may have been intended anyhow; besides, no protests were needed to point out to American Christians that the Italian anti-Jewish policy is a wholly baseless victimization of a defenseless minority, and would in all likelihood, culminate in the confiscation of the property of Jews to replenish the war-chest of a regime which, many believed, had to engage in successive adventures in order to survive.

HUNGARY

Hungary's following the example of Germany affected a much larger number of Jews, both absolute and relative, (444,567 out of a total of 8,688,349) than the action of Italy. During 1938 the Hungarian Government surrendered to the demands and threats of the various political groups which, for one reason or another, advocated the reduction in the proportion of Jews in the economic and cultural life of the country. As a result of historical development, Jews had always constituted a large part of the middle class in Hungary, as in other central and east European lands, in which the non-Jewish population had been divided into the landowning aristocracy and peasantry. In Hungary, especially, Jews had had a very large share in building up the country's finance, commerce and industry, and in developing its cultural life. Economic and social changes, which began in the latter quarter of the nineteenth century and were greatly accelerated after the World War, resulted in the entrance of more and more non-Jews into middle-class and urban occupations, in which they had to meet the competition of Jews. The desire of some non-Jews to reduce or eliminate this competition, especially during periods of economic depression, is one of the chief factors in the growth of post-war anti-Semitism in central and eastern Europe.

In Hungary, the movement to reduce the participation of Jews in the urban economic and cultural fields had been going on for several decades before the World War, but gathered considerable momentum after that conflict when the dismemberment of the Austro-Hungarian Empire accelerated the economic changes which came with the beginnings of industrialization. During the past five years, the influence of Nazi Germany, especially following Germany's successes in the arena of international politics, lent new vigor to this agitation. The result, thus far, has been that the Hungarian Government yielded, and itself introduced the measure for the numerical restriction of Jews in all walks of life, which was adopted in May, 1938. The *numerus clausus* of 20% established by this law did not satisfy the more radical anti-Semites who continued agitation for an even severer restriction. This agitation was aided by Germany's success in the Czecho-Slovak crisis and the consequent necessity for Hungary to draw closer to the Third Reich. As a result it is now proposed that the percentage norm for Jews be reduced in professions and cultural pursuits to 6 per cent, in private enterprises to 12 per cent, that Jews be excluded entirely from responsible positions in the press, theatre and cinema and from all civil service posts, and that the definition of "Jew" be widened to embrace Christians of Jewish descent, whereas the existing law exempts Jews who had embraced Christianity before Aug. 1, 1919.

The Berchtesgaden-Godesburg-Munich settlement of the German-Czecho-Slovak imbroglio in September, 1938 spelled further disaster to Jews in Central Europe. Not only did it strengthen Nazi influence in that region, but it destroyed the only oasis of equality for Jews in a vast desert of intolerance, hatred and persecution, adding another 350,000 potential refugees.

PLIGHT OF THE REFUGEES

That assistance to political refugees is an international responsibility was recognized by the League of Nations in 1933 when it created the High Commission for Aid to Refugees from Germany. Its connection with the League, however, was one of the factors which greatly restricted the usefulness of the Commission, especially in making it virtually impossible for the Commission to negotiate with the German Government. The limited success of the Commission and the sudden increase in the number of prospective victims which came with the Nazi seizure of Austria were undoubtedly the chief considerations prompting the United States Government to initiate the Evian Refugee Conference which created the Intergovernmental Committee to Aid Refugees from Germany. After months of delay caused by international unrest, particularly the Czecho-Slovak crisis, George Rublee, American director of the Committee, succeeded in opening negotiations with the Nazi Government. According to reliable press reports, the basis at first proposed for these negotiations by Berlin involved proposals closely resembling the demand that states interested in aiding emigration from Germany pay a ransom for the release of the would-be emigrés who, in turn, would help redeem their own property by becoming "boosters" for German exports. It is reported, as this is being written (January, 1939), that this plan has been rejected by the Intergovernmental Committee and that a new plan, devoid of these features, is being discussed.

Much interest was shown also in the suggestions made by the British Government that British Guiana in South America and Tanganyika in Africa be opened for mass settlement by refugees from Germany. A commission of experts is expected to investigate the possibilities of British Guiana. The Tanganyika proposal has raised the question of the wisdom of establishing refugees from Germany in a former possession of the Reich.

In the meantime, the Evian Conference has had the effect of encouraging a few countries, notably Great Britain, France, Holland, Belgium and Switzerland, in continuing a liberal policy in respect to receiving refugees. The Conference has not so far succeeded in achieving what was expected to be its chief result, namely, the opening of South America to a considerable number of emigrés.

PALESTINE PROBLEMS

Compared with events in Central Europe, developments in Palestine appeared to have taken a turn for the better in 1938. It will be recalled that the announcement in July, 1937 of the plan for the tri-partition of Palestine, as recommended by the British Royal Commission headed by the late Lord Peel, was received with mixed feelings by American Jews as indeed by Jews everywhere. In the United States the issue was widely debated. The consensus of opinion appeared to be opposed to the partition plan.

The delay of the British Government in taking any action, one way or the other, was disappointing to many American Jews because the announcement of the partition plan had been a signal for the renewal of Arab unrest in Palestine and it was felt that the only path to peace was the adoption of, and the unmistakable indication of a determination to carry out, a definite policy. It was not until January, 1938, however, that Britain took another step, in the appointment of a technical commission to work out, in Palestine, the details of partition.

The report of this Commission, headed by Sir John Woodhead, was awaited with anxiety by Jews everywhere. In October, when the Commission was formulating its report, there were insistent rumors that Britain was planning the abandonment of the Balfour Declaration. A wave of protest swept the western world. In the United States, Jews of all opinions regarding Palestine's future united in deploring such a step which was regarded as especially tragic in the face of the crisis in Central Europe. A delegation representative of a complete cross-section of the Jewish community waited upon the Secretary of State and upon the British Ambassador in Washington. A large section of the American press voiced the hope that Britain would not surrender the mandate for Palestine.

It is quite probable that, if there had been a tendency in Downing Street to take that course, the truly imposing demonstration in the United States strengthened the hands of those opposed to it. At any rate, the publication in the early part of November of the report of the Woodhead Commission was accompanied by a statement of government policy abandoning the partition plan and announcing instead the intention to convene parallel conferences with Arabs on the one hand and Zionists on the other, aimed at formulating a *modus vivendi;* should these fail, the Government would lay down a policy of its own and take necessary measures to carry it out. The community is eagerly awaiting the opening of the conferences, expected early in 1939.

AID FOR OVERSEAS COMMUNITIES

The growing concern of American Jews over the hardships of Jewish communities overseas was reflected throughout the year not only in increased activity on the part of the overseas agencies but also by an increase in contributions to these agencies.

The 1938 fund-raising efforts of both the Joint Distribution Committee (J.D.C.) and the United Palestine Appeal were launched late in January, 1938. Both campaigns benefitted by the growing realization on the part of Jews in this country of the greater needs abroad. The annexation of Austria by Germany, resulting in the loss of civil, legal and economic rights for Austrian Jews, evoked grave concern in the spring of 1938. Prompt emergency aid was rendered by the J.D.C. On May 22, it was revealed that the J.D.C. was making available about $1,000 a day for emergency assistance to Jews in Vienna.

ANTI-JEWISH AGITATION

In the 1937 review there was noted a recession in anti-Jewish agitation following the 1936 presidential election campaign, and the rejection by the American people of the attempts of native and foreign agitators to introduce cleavages in our national life. The year 1938, however, witnessed a perceptible rise in such agitation, marked by the resumption by native Jew-baiters of their former activities, and by the active propaganda of the German-American Bund and the widespread opposition to it. These organizations were considerably emboldened by the new waves of anti-Jewish persecutions abroad and encouraged by the adverse economic conditions at home. To a great extent the agitation continued to have a political motive, much of its content being attacks upon the policies of the present administration on the pretense that it is in some way controlled by "the Jews." Controversial legislative measures proposed by the administration gave stimulus to such agitation, and the action of the Government initiating the Evian refugee relief conference was eagerly exploited to frighten the public by distorting the project into a scheme for flooding the country with Jewish radicals who were being expelled from their native lands because of subversive activities.

In sharp contrast to the relatively unpublicized activities of native organizations, the Nazi sympathizers held the stage owing to widespread resentment at their attempts to introduce alien ideas on American soil. This, combined with the increasing opposition of religious and patriotic organizations and the legal action started by various groups to check the Bund activities, served to publicize this movement far out of proportion to its importance and strength.

There have been many indications during the period that an increasing number of Americans of German origin openly disapprove and strongly resent the importation of Nazi doctrines in this country. As a result, the Bund found itself thwarted in its attempts to establish new camps and even to hold meetings in many communities.

The Nazi movement in this country was also the target of official investigation in Massachusetts and New York, as well as of Federal inquiries. On May 26, the House of Representatives adopted a resolution proposed by Martin Dies (Dem., Texas), for a Congressional investigation of un-American activities, including Nazism. The report of this investigation was submitted to Congress in January, 1939.

In the course of an inquiry by the New York State Legislative Committee appointed to investigate subversive activities, Nazi leaders admitted that the purpose of the Bund was "to build an Aryan movement under the swastika to liberate America from the Jews," and that the Nazi salute was "the coming salute for the whole United States."

American Jews were profoundly troubled by utterances of Father Charles E. Coughlin of Detroit, Mich. in radio addresses as well as in his weekly publication *Social Justice,* in which Jews were charged with responsibility for the Russian communist revolution and other unpopular movements. While a measure of comfort was derived from authoritative declarations that Father Coughlin did not speak for the Catholic Church, yet indications that he had a large following were noted with anxiety. A pamphlet refuting Coughlin's principal accusations was issued by the General Jewish Council.

MOVEMENTS FOR INTER-GROUP UNDERSTANDING

During the year the most active and effective agency of intergroup good will was again the National Conference of Christians and Jews whose efforts were supplemented by pronouncements and activities of a host of other organizations. The year, the tenth in the life of the National Conference, saw the inauguration of an intensive campaign to promote concepts of better human relations in the schools and colleges of the nation. The year was noteworthy also for the number of Round Tables established by the National Conference, including one in New York.

The double celebration of Brotherhood Day and the tenth anniversary of the National Conference on Feb. 22, 1938 was perhaps the outstanding single event of the period. The message of inter-faith cooperation disseminated on this occasion through the medium of local meetings or dinners, the press and the radio, penetrated into the remotest sections of the country.

At the semi-annual meetings May 30, 1938 the executive committee authorized Dr. Arthur H. Compton, who had been elected to succeed the late Newton D. Baker as Protestant co-chairman of the Conference, to proceed with a four-year nationwide survey, beginning with the academic year 1938–1939, on the influence of a college education on the religious and racial attitudes of students.

The year was marked by an extraordinary number of good will declarations by Christian organizations and leaders, in addition to protests by Christian leaders and organizations against persecutions in particular European countries. Undoubtedly the most significant trend to be discerned in these statements was the realization that anti-Semitism is but a forerunner of anti-Christianity and that it behooves the churches of America firmly to oppose anti-Semitism for the preservation of all religion. An unusually significant event was the adoption by the legislature of New Jersey of a resolution directing the Governor to appoint a commission to foster racial amity and understanding, and empowering him to set aside one day each year to be designated as brotherhood and good will day.

JEWISH COMMUNAL LIFE

The question of closer cooperation between, or greater coordination of the work of, the several organizations engaged largely or entirely in combating anti-Jewish agitation and safeguarding the civil and religious rights of Jews, was the focus of attention within the Jewish community during 1938. Following much public discussion, the four organizations most active in this field—American Jewish Committee, American Jewish Congress, B'nai B'rith, and Jewish Labor Committee — organized a General Jewish Council.

Unity in community organization, the inroads of secularization, the importance of the synagogue's regaining its former influence in the lay affairs of the community, and the vital rôle of Judaism in preserving the Jewish group were some of the subjects stressed at the conventions of the congregational unions and rabbinical associations during the year.

Notable events in the field of Jewish education during 1938 included the enlargement of extension activities of the Jewish Theological Seminary of America aimed at spreading among the public a better knowledge of the results of recent scholarly research; the extension of Jewish educational facilities to Jewish students on college campuses through the opening of a unit of the B'nai B'rith Hillel Foundations at the University of Indiana and the establishment of a Jewish Culture Foundation at New York University; and the publication of a number of notable books in the fields of Jewish scholarship and of modern Jewish problems. In September, the American Jewish Committee issued the first number of a bi-monthly publication, the *Contemporary Jewish Record,* intended to be a repository for documents, reviews, and chronicles on contemporary affairs of interest to Jews.

The problems of vocational adjustment and guidance for Jewish youth was one of the chief topics of discussion by Jewish social welfare organizations, including the Jewish Welfare Board, the B'nai B'rith, and the Conference on Jewish Relations. A conference on these problems was held in New York City in May.

PERIODICAL PUBLICATIONS

Advance (Congregational)
14 Beacon Street, Boston.

America (Jesuit)
53 Park Place, New York City.

American Hebrew
48 West 48th. Street, New York City.

Catholic Action
1312 Massachusetts Ave. N.W., Washington, D.C.

Catholic Review
21 West Franklin Street, Baltimore, Md.

Catholic World
401 West 59th. Street, New York City.

Christendom
297 Fourth Ave., New York City.

Christian Advocate
150 Fifth Ave., New York City.

Christian Century
95 Madison Ave., New York City.

Christian Herald
419 Fourth Ave., New York City.

Christian Leader (Universalist)
178 Newbury Street, Boston.

Christian Register (Unitarian)
25 Beacon Street, Boston.

Churchman (P.E.)
425 Fourth Ave., New York City.

Church Management
East 6th. Street at St. Clair, Cleveland, O.

Commonweal (R.C.)
386 Fourth Ave., New York City.

International Journal of Religious Education
203 N. Wabash Ave., Chicago.

Living Church (P.E.)
1801 W. Fond du Lac Ave., Milwaukee, Wis.

Lutheran Herald
425 S. Fourth Street, Minneapolis, Minn.

Presbyterian Tribune
70 Fifth Ave., New York City.

Watchman-Examiner (Baptist)
23 East 26th. Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

NATIONAL CHURCHES

American Baptist Historical Society, Chester, Pa.

American Unitarian Assn., 25 Beacon St., Boston, Mass.

Board of Direction of the General Synod of the Reformed Church in America, 25 E. 22nd St., New York City.

Christian Science Church, 11 W. 42nd St., New York City.

Congregational Christian General Council, 287 Fourth Ave., New York City.

Free Church of America, 25 Beacon St., Boston, Mass.

Freethinkers' of America, Inc., 317 W. 34th St., New York City.

Friends' General Conference of the Religious Society of Friends, 1515 Cherry St., Philadelphia, Pa.

General Conference of Seventh-Day Adventists, 6840 Eastern Ave., N.W., Takoma Park, Washington, D.C.

General Council of the Presbyterian Church in the U.S.A., 156 Fifth Avenue, New York City.

National Lutheran Council in America, 39 E. 35th St., New York City.

National Spiritualist Assn., 600 Penn. Ave., S.E., Washington, D.C.

Northern Baptist Convention, 152 Madison Ave., New York City.

Society for Ethical Culture of New York, 2 W. 64th St., New York City.

Theosophical Society in America, Wheaton, Ill.

Union of American Hebrew Congregations, Merchants Building, Cincinnati, Ohio.

Union of Orthodox Jewish Congregations of America, Amsterdam Ave. and 186th St., New York City.
United Lutheran Church in America, 39 E. 35th St., New York City.
United Synagogue of America, Broadway and 122nd St., New York City.
Universalist General Convention, 16 Beacon St., Boston, Mass.
Vedanta Society, 34 W. 71st St., New York City.
Volunteers of America, 34 W. 28th St., New York City.

INTERNATIONAL ORGANIZATIONS

Association for the Promotion of Christian Unity, Mission Building, Indianapolis, Ind.
Baptist World Alliance, Bates College, Lewiston, Me.
Central Bureau of Evangelical Churches in Europe, 297 Fourth Ave., New York City.
Committee on Friendly Relations Among Foreign Students, 347 Madison Ave., New York City.
Ecumenical Methodist Conference, 720 Omaha Bank Building, Omaha, Neb.
International Assn. of Daily Vacation Bible Schools, 297 Fourth Ave., New York City.
International Association for the Promotion of Liberal Christianity and Religious Freedom, 25 Beacon St., Boston, Mass.
International Congregational Council, 287 Fourth Ave., New York City.
International Society of Christian Endeavor, 41 Mt. Vernon St., Boston, Mass.
Lutheran World Convention, 39 E. 35th St., New York City.
Near East College Association, Inc., 30 Rockefeller Plaza, New York City.
Religious Education Association, 59 E. Van Buren St., Chicago, Ill.
Universal Christian Council on Life and Work, 297 Fourth Ave., New York City.
Western Section of Alliance of Reformed Churches Throughout the World Holding the Presbyterian System, 226 West Mowry St., Chester, Pa.
World Conference for International Peace Through Religion, 70 Fifth Ave., New York City.
World Student Christian Federation, 347 Madison Ave., New York City.
World Sunday School Assn., 51 Madison Ave., New York City.

INTERCHURCH ORGANIZATIONS

American Bible Society, Park Ave. and 57th St., New York City.
American Sunday School Union, 1816 Chestnut St., Philadelphia, Pa.
American Tract Society, 7 West 45th St., New York City.
Chaplain's Aid Assn., 401 W. 59th St., New York City.
Christian Co-operative Fellowship in North America, 5757 University Ave., Chicago, Ill.
Christian Unity Foundation, 70 Fifth Ave., New York City.
Church Peace Union, 70 Fifth Ave., New York City.
Community Church Workers of U.S.A., 77 W. Washington St., Chicago, Ill.
Conference of Theological Seminaries and Colleges in the U.S.A. and Canada, Gettysburg, Pa.
Epworth League of the Methodist Episcopal Church, 740 Rush St., Chicago, Ill.
Federal Council of the Churches of Christ in America, 297 Fourth Ave., New York City.
Fellowship of Christian Co-operation, 2929 Broadway, New York City.
Free Church of America, 25 Beacon St., Boston, Mass.
National Council of Protestant Episcopal Churches, 281 Fourth Ave., New York City.
National Religion and Labor Foundation, 304 Crown St., New Haven, Conn.

AUXILIARY ORGANIZATIONS

Catholic Church Extension Society of the U.S.A., 306 N. Michigan Ave., New York City.
Catholic Guardian Society, 485 Madison Ave., New York City.

Catholic Protective Society, 477 Madison Ave., New York City.

Church League for Industrial Democracy, 135 Liberty St., New York City.

Community Church Workers of the U.S.A., the, 1302 Chicago Temple, 77 W. Washington St., Chicago, Ill.

Lord's Day Alliance, 156 Fifth Ave., New York City.

National Conference of Jews and Christians, 300 Fourth Ave., New York City.

Woman's Christian Temperance Union, 1730 Chicago Ave., Evanston, Ill.

Woman's National Sabbath Alliance, 156 Fifth Ave., New York City.

Young Men's Christian Assn., 347 Madison Ave., New York City.

Young Men's Hebrew Assn., 220 Fifth Ave., New York City.

Young Woman's Christian Assn., 600 Lexington Ave., New York City.

Young Woman's Hebrew Assn., 31 West 110th St., New York City.

RELIGIOUS PUBLICATIONS

American Baptist Historical Society, Upland Ave., Chester, Pa.

American Baptist Publication Society, 1701 Chestnut St., Philadelphia, Pa.

American Bible Society, Bible House, New York City.

American Tract Society, 7 W. 45th St., New York City.

Chicago Tract Society, 440 S. Dearborn St., Chicago, Ill.

Gideons, 202 S. State St., Chicago, Ill.

National Testament and Tract League, 200 Kellogg Bldg., Washington, D.C.

Pocket Testament League, 156 Fifth Avenue, New York City.

Religious Education Assn., 59 East Van Buren St., Chicago, Ill.

Society for the Propagation of the Faith, 462 Madison Ave., New York City.

MISSIONARY

Agricultural Missions Foundation, 156 Fifth Ave., New York City.

American Board of Commissioners for Foreign Missions, 14 Beacon St., Boston, Mass.

American McAll Assn., 112 E. 16th St., Philadelphia, Pa.

American Mission to Lepers, 156 Fifth Ave., New York City.

Christian and Missionary Alliance, 260 W. 44th St., New York City.

Committee of Reference and Council, 156 Fifth Ave., New York City.

Council of Women for Home Missions, 297 Fourth Ave., New York City.

Home Missions Council, 297 Fourth Ave., New York City.

International Missionary Council, 156 Fifth Ave., New York City.

Missionary Education Movement of the United States and Canada, 150 Fifth Ave., New York City.

National Council of Jewish Women, 1819 Broadway, New York City.

Near East Relief, 2 West 46th St., New York City.

Student Volunteer Movement for Foreign Missions, 254 Fourth Ave., New York City.

Woman's Union Missionary Society, 67 Bible House, New York City.

PART SIX

SCIENCE—PRINCIPLES AND APPLICATION

DIVISION XVIII

MATHEMATICS AND ASTRONOMY

MATHEMATICS

By Charles N. Moore

Professor, University of Cincinnati

AMERICAN MATHEMATICAL SOCIETY

Semicentennial Celebration.—The high light of the year in the way of mathematical meetings was the celebration of the semicentennial of the founding of the American Mathematical Society. This meeting was held in New York Sept. 6-9, and appropriately at Columbia University, since it was a group of Columbia professors who, under the leadership of Professor Thomas Scott Fiske, took the initiative in founding the Society. The celebration was inaugurated by a reception in Johnson Hall, tendered by Columbia University to the visiting mathematicians, followed by a convocation in McMillin Theater at which President R. L. Moore of the Society presided, and Vice-President Rudolph Langer of the Society and President Nicholas Murray Butler of Columbia University delivered addresses.

Addresses and Scientific Papers.—The main feature of the meeting was a series of ten invited hour-addresses given in McMillin Theater. Addresses of a more general nature were made by Professor R. G. Archibald of Brown University on the history of the Society and a review of 50 years of activity on the part of American mathematicians by Dean G. D. Birkhoff of Harvard University. These were followed by eight other lectures reviewing various aspects of special fields and pointing out some of the important directions which future developments of research are likely to take. The speakers and their topics were as follows: Professor E. T. Bell, California Institute of Technology, Fifty years of algebra in America, 1888-1938; Professor G. C. Evans, University of California, Dirichlet problems; Professor E. J. McShane, University of Virginia, Recent developments in the calculus of variations; Professor J. F. Ritt, Columbia University, Algebraic aspects of the theory of differtial equations; Professor J. L. Synge, University of Toronto, Hydrodynamical stability; Professor T. Y. Thomas, University of California at Los Angeles (read by J. F. Daly of Princeton University), Recent trends in geometry; Professor Norbert Wiener, Massachusetts Institute of Technology, Historical background of harmonic analysis; Professor R. L. Wilder, University of Michigan, The sphere in topology. The addresses listed above were published by the Society in two volumes under the general heading, *Semicentennial Publications.* In addition to the longer addresses, 109 shorter papers, giving results of recently completed researches, were presented by various mathematicians. Of these 43 were presented by title.

Tribute to the Founder.—It was Professor T. S. Fiske, recently retired from active service at Columbia University as professor emeritus, who was the prime initiator in the organization of the American Mathematical Society. He was the center of attention at the gala dinner held at the Hotel Astor. It is a rare circumstance that a scientific society should have the privilege of honoring its founder on the occasion of its semicentennial anniversary. A tribute to Professor Fiske in connection with the dinner was the presentation by the toastmaster of a beautifully illuminated testimonial, containing a greeting of appreciation and affection, prepared by order of the Council and signed by the President and the Secretary.

Other Meetings.—In addition to the semicentennial celebration, the society met in New York City in February and October, in Charlottesville, Va., in Berkeley, Calif., and in Chicago in April, in Cleveland and in Los Angeles in November, and held its regular annual meeting at Richmond and Williamsburg, Va., in December. At the Chicago meeting in April the usual Symposium Lecture was presented, with Professor C. G. Latimer, of the University of Kentucky, speaking on the topic: "The arithmetics of generalized quaternions." At the April meeting in Charlottesville there was held a symposium on the topic "Lattice theory", with the following invited speakers: Garrett Birkhoff, Harvard University; Professor Oystein Ore, Yale University; and Professor M. H. Stone, Harvard University. In connection with the sessions of the annual meeting held in Richmond the mathematicians present were particularly interested in hearing the address of Dean Birkhoff, of Harvard University, the retiring President of the American Association for the Advancement of Science, who spoke on the topic: "Intuition, reason and faith in science." At these same sessions Professor W. D. Cairns, of Oberlin College, retiring Vice-President and Chairman of Section A of the A. A. A. S. addressed the mathematical group on the subject: "Seismology from the mathematical viewpoint." Also Professor H. A. Rademacher, of the University of Pennsylvania, presented an invited address before the same group on the topic: "Fourier expansions of modular functions and theorems on partitions". The other meetings of the society, with the exception of the November meeting in Los Angeles, were featured by invited addresses by the following speakers: Professor P. A. Smith, Columbia University; Professor G. H. Hedlund, Bryn Mawr College; Professor A. D. Michael, California Institute of Technology; Professor C. C. MacDuffee, University of Wisconsin; Professor V. G. Grove, University of Michigan. In addition to these longer addresses, numerous shorter papers embodying the researches of the speakers were presented at the various meetings. More detailed accounts of the various meetings of the society may be found in the *Bulletin* of the American Mathematical Society.

Symposiums and Conferences.—A Symposium on the Algebra of Geometry was held at the University of Notre Dame on Feb. 11-12 in five sessions. The speakers and their topics were as follows: Professor M. H. Stone, Harvard University, Boolean algebra and topology; Garrett Birkhoff, Harvard University, Partially-ordered function spaces; Professor Oystein Ore, Yale University, On structures and their applications; Dr. Saunders MacLane. Chicago University, Applications of the lattice theory to field structure; Dr. J. K. Senior, Chicago University, Some problems concerning groups; Professor E. V. Huntington, Harvard University, The duplicity of logic; Professor John von Neumann. Institute for Advanced Study, Continuous geometry; Professor Karl Menger, Notre Dame University, Alt's algebra of affine geometry and related problems; Dr. A. N. Milgram, University of Notre Dame, A theorem on the algebra of geometry; Professor A. A.

Albert, Chicago University, An application of the theory of division algebras to geometry; Professor Emil Artin, Notre Dame University, An algebraic topic with geometric aspects.

A Conference on Algebra was held at the University of Chicago during the period of the summer quarter. The conference extended over four days, June 28-July 1, with the following speakers and subjects: Professor L. E. Dickson, University of Chicago, On the History and Nature of the Integral Quantities of Algebras; Professor R. Hull, University of Illinois, The Arithmetic of Rational Cyclic Algebras; Professor A. A. Albert, University of Chicago, On Cyclic Algebras; Professor R. Brauer, University of Toronto, On the Structure of Normal Division Algebras; Professor S. MacLane, University of Chicago, The Structure of Perfect Fields; Professor O. Zariski, Johns Hopkins University, Ideal Theory and Algebraic Geometry; Professor S. Lefschetz, Princeton University, Formal Power Series in Algebraic Geometry; Professor C. C. MacDuffee, University of Wisconsin and the Institute for Advanced Study, The Use of Matrices in Ideal Theory; Professor C. G. Latimer, University of Kentucky, Ideals in a Quaternion Ring and Hermitian Forms; Professor E. Artin, University of Notre Dame, Theory of Quadratic Forms; Professor R. Baer, University of North Carolina, Group Structure and Subgroup Lattice; Dr. J. Williamson, Johns Hopkins University, Hermitian Matrices and Normal Matrices over a Field of Characteristic Zero; Professor M. H. Ingraham, University of Wisconsin, Topics in the Theory of Matrices Whose Elements Belong to a Division Algebra; Dr. O. Schilling, John Hopkins University, Local Class Field Theory; Professor N. Jacobson, University of North Carolina, Simple Lie Algebras.

A symposium on Geometry was held at the University of Cincinnati on Nov. 12. The speakers were Professor Oswald Veblen, of the Institute for Advanced Study, Professor A. B. Coble, of the University of Illinois, and Professor Karl Menger, of the University of Notre Dame. They addressed the group attending the symposium on the following topics: Spinors and projective geometry; Achievements in algebraic geometry; New ways in the foundation of geometry.

MATHEMATICAL ASSOCIATION OF AMERICA

The Mathematical Association gave up its regular summer meeting in order that the American Mathematical Society might have free rein in arranging its semicentennial celebration. The annual meeting of the Association was held at Richmond and Williamsburg, Va. in conjunction with the meetings of the A. A. A. S. and the A. M. S. The meeting in Richmond, described in the report on the meetings of the Society, was a joint meeting of Section A of the A. A. A. S., the Society, and the Association, and served as the opening meeting of the Association. It was followed by sessions at Williamsburg, at which various invited addresses were presented.

In addition to the meetings of the Association as a whole, there were held some 21 sectional meetings in various portions of the country. At these gatherings papers on mathematical topics lying in the collegiate field were presented by various speakers in accordance with programs arranged by the different local groups.

NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

The Council held its annual meeting at Atlantic City, Feb. 25-28 and a joint summer meeting with the National Education Association in New York City, June 27-29. At these meetings various papers on topics relating to high school mathematics were presented and discussed.

TOPOLOGY

One of the most famous problems of modern times is the so-called four color problem: prove that any map on a sphere can be colored with four colors. It can be established readily that any such map can be colored with five colors, but no map has been discovered so far which can not be colored with four colors. Although a complete solution is still lacking, some progress has been made during 1938. Philip Franklin has shown that any map on the sphere containing 31 or fewer regions can be colored with four colors. This settles the question finally for maps of this category. However, for maps on the sphere containing more than 31 regions the matter is still in doubt. No such map that requires more than four colors has been found, but proof that no such map exists is still lacking.

DYNAMICS

The October, 1938, number of the *American Journal of Mathematics* has been published as a memorial number to G. W. Hill (born March 3, 1838), one of America's greatest mathematical astronomers. In the first volume of the *Journal* Hill published a paper of far-reaching importance entitled "Researches in the Lunar Theory." The memorial number opens with a paper on "The Equations of Motion of the Moon" by the late E. W. Brown, world authority for many years on the motion of the moon. The paper by Hill in the first volume of the *Journal* was the starting point of the life-long work of Brown. Other papers on mathematical astronomy in the memorial number are: (a) a paper on symmetric periodic orbits in the restricted problem of three bodies by Ernst Holder; (b) a paper entitled "Periodic Orbits in the Restricted Problem of Three Bodies in their Relation to Hill's Work on the Motion of the Moon" by Elis Stromgren; (c) a paper entitled "On Hill's Periodic Lunar Orbit" by Aurel Wintner; (d) a paper entitled "Mean Motion" by Hermann Weyl. All of these papers deal with problems of Newtonian mechanics which arise in the study of our solar system; thus they have their origins in the earliest period of modern mathematics, and they supply us further information about our physical universe.

Two other important papers in the memorial number to Hill are "Symbolic Dynamics" by Marston Morse and Gustav A. Hedlund and "The Homogeneous Chaos" by Norbert Wiener. These are in sharp contrast with the papers mentioned above because they treat recent developments in theoretical dynamics. They are significant not only because of the important results obtained in them, but also because they show that theoretical dynamics, one of the oldest branches of modern mathematics, has taken on new life within the last ten years and is now a more active field of research than ever. The paper by Morse and Hedlund deals with qualitative aspects of recurrence and transitivity in dynamical systems. It represents the latest results in developments which have taken place during the last 25 years; furthermore, it reflects the widespread tendency of mathematics to become more abstract in the formulation and treatment of its problems. The paper by Wiener is on the ergodic theory which deals with metric properties as opposed to qualitative properties of dynamical systems. The ergodic theory has important applications to the study of gases by the methods of statistical mechanics and to the study of the Brownian motion of particles suspended in a liquid.

STATISTICS

In a paper entitled "Distributions of Sums of Squares of Rank Differences for Small Numbers of Individuals" (published in the *Annals of Mathematical Statistics* Vol. IX, No. 2, June 1938, pp. 133-148) E. G. Olds studied the distribution of r' for small values of N where r' is the coefficient of correlation, determined from ranked data, given by the formula $r' = 1 - (\Sigma\ d_i^2)/(N^3 - N)$, the d_i representing differences in ranks and N being the total population. Olds does not concern himself with r' but confines his attention to $\Sigma\ d_i^2$ since this uniquely determines r' for a particular value of N. By direct evaluation he obtained a table by means of which the significance of $\Sigma\ d_i^2$ can be tested for $N = 2, 3, 4, 5, 6, 7$, and by using fitted normal and Pearsonian type II curves he enlarged his table as far as $N = 30$. Accordingly, tables are now available testing the significance of the rank correlation coefficient in small samples, that is, for a small number of items ranked.

In a paper by S. S. Wilks entitled "Weighting Systems for Linear Functions of Correlated Variables when there is no Dependent Variable" (*Psychometrika,* Vol. III, No. 1, March 1938, pp. 23-40), the author discusses among other things the scoring of items on a test, the items being assumed to be intercorrelated with one another. He shows that, if scores of the entire test are obtained by using linear functions of the scores for the items, then, provided that the size of the test, *i.e.* the number of items, is sufficiently large, it matters very little how the individual items are weighted, the relative order of the scores for the entire test tending to be stable. He notes that unless the number of positive correlations among the items is of order n (n being the size of the test) then it is not possible to construct a linear score which would possess this type of stability in ordering the individuals taking the test. In addition, he warns that the existence of such an invariant ordering of the scores for the test does not prove that the scores rank the individuals with respect to what the constructor of the test had in mind when he devised the test.

In a paper entitled "The Transformation of Statistics to Simplify Their Distribution" (*Annals of Mathematical Statistics* Vol. IX, No. 2, June 1938, pp. 87-96) Harold Hotelling and Lester R. Frankel investigate the approximate normalization of Student's t, and they transform Hotelling's generalized Student's ratio T in such a way as to be able to refer it to the X^2 distribution. They use a method of asympototic expansions. and they find that when n, the number of degrees of freedom, is larger than t that it will be sufficient to treat $t\,(1 - (t^2 + 2)/4n)$ as a normally distributed variate with unit variance. The advantage of using this transformed variate is that further statistical studies are possible with such variates, since a great part of statistical theory is based on the assumption of normal distribution. Thus, the analysis of variance technique might be applied to transformed t values arranged in accordance with some multiple classification. Likewise, if several independent tests give values of t based on various degrees of freedom the corresponding values of the normally distributed variates may be squared and added and the sum will have a X^2 distribution with the number of degrees of freedom equal to the number of t values combined. Thus, a composite test is available. They give a similar expression for referring T^2 to the distribution, the first approximation being $X^2 = T^2 \quad 1 - (p + T^2)/2n\}$ where p is the number of the variates considered in the calculations of T^2, and n is the number of degrees of freedom upon which T^2 is based. The case when $n = N_1 + N_2 - 2$ is of special importance on account of the connection of T^2 with discriminant functions and generalized distances as discussed in the section on analysis of variance.

ANALYSIS

During the present century much mathematical investigation has centered around the problem of dealing with divergent series, a type of series banned from consideration by most mathematicians during the greater part of the nineteenth century. In a paper appearing in the Transactions of the American Mathematical Society, R. P. Agnew has studied the relationship between two given methods of summability and the methods whose transformation matrices are obtained by forming the iteration product and the composition product of the matrices of the given methods. Some of these relationships are found to be quite different from what one might expect in advance.

In another paper in the *Transactions* of the American Mathematical Society Garrett Birkhoff continues his investigations of Analytical Groups. This paper deals with systems (called "analytical groups") in which an associative multiplication is defined. and which can be so mapped on a

Banach parameter-space that if one multiplies all elements by any fixed element near the origin, vector differences are left nearly invariant. The main advantage of the author's methods is that they enable him to treat many infinite continuous groups. This marks a real advance in the analytical theory of groups.

Much recent mathematical investigation has dealt with the important class of functions introduced by Harold Bohr under the name "almost periodic functions." In a paper in the *Acta Mathamatica* R. H. Cameron studies the solutions of linear differential equations whose coefficients are almost periodic functions. In particular he determines the conditions under which the solutions of such equations will be likewise almost periodic.

ASTRONOMY

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INSTRUMENTAL DEVELOPMENTS

Mount Palomar Telescope.—Reports concerning the progress on construction of the 200-inch telescope indicate that the work is well ahead of schedule. Polishing on the disk should be under way when this is published, and it seems possible that the great mirror will be ready to be transported from Pasadena to Mount Palomar in the latter part of 1939. The tube and mounting have already been shipped from South Philadelphia to the observatory site, where the 137-foot dome has been ready to receive them for some months. This dome itself is a remarkable structure; the vertical walls are 30 feet high, double, with a 12-inch air-space between. The hemispherical dome is likewise double, the outer surface of welded ferrous plates and the inner of sheet aluminum. The walls are vented to the air space between the inner and outer domes and this in turn is vented at the top; night air is pumped into the space around the lower dome to keep the whole structure at the night temperature in order that the "seeing" be not affected by currents of warm air along the walls.

Bowen has devised an "image-slicer" to increase the efficiency of slit spectrographs. He estimates that, with average seeing, the conventional type of slit at the focal plane of the 200-inch telescope will utilize about one-twentieth of the light of the star whose spectrum is being photographed; the rest would be wasted around the narrow slit. In his new device the converging light-cone is received on a set of narrow aluminized mirrors so arranged that they slice the image into narrow strips and lay these strips end to end on the spectrograph-slit. He then introduces a cylindrical lens just in front of the photographic plate, with its axis parallel to the dispersion in wave-length. This reduces the width of the spectrum without affecting the dispersion and increases the intensity of illumination at the plate by factors up to ten or even twenty.

"Photo-comparator".—A device which Kron calls a "photo-comparator" is an integral part of the new Lick photoelectric photometer; it consists of three right-angle prisms, two mounted on a right-and-left screw so that they can be moved perpendicularly to the optical axis of the telescope, and one mounted in the optical axis so that it can be rotated to receive a light-beam from either of the others. By selecting a comparison star not too far from the star whose brightness is being investigated, setting the two movable prisms at the proper separation to catch the two cones of light, and then rotating the third total-reflecting prism, the images of the two stars can be brought into the photo-cell in rapid succession. Some "dark" readings are eliminated and the observing time is reduced to about one-third of that formerly necessary, with no reduction in accuracy. The arrangement was first suggested by Stebbins.

Color-Index Grating.—Whipple and Norman have utilized a Wood replica grating, so ruled that the light is concentrated strongly in one first-order spectrum, as the basic component of a color-index method whereby the red and blue stellar images are obtained simultaneously. The grating is placed a few inches in front of the photographic plate, just back of a filter which cuts out the middle of the spectrum; the result is two images, which may be made effectively round by a little adjustment of the grating forward or back. Color indices can be determined in quantity by the method with sufficient accuracy at least for statistical work.

Nebular Spectrograph.—The 150-foot nebular spectrograph mentioned in the 1937 summary has been constructed on the slope of Mount Locke, site of the McDonald Observatory. An equatorial mount carries a 36-by-10-inch plane mirror reflecting light to another plane mirror 75 feet up the slope. This mirror returns the light to the train of dispersing prisms and an f/1 Schmidt camera, all carried on the mount. An adjustable diaphragm serves as the slit, and comparison spectra can be registered on the photograph by use of a smaller mirror mounted next the three-foot one. The permanent aurora and that part of the zodiacal light spread over the sky set a lower limit to the brightness of a diffuse nebula detectable with ordinary apparatus, probably about seventh magnitude per square degree. Nebulae one hundredth as bright can be detected with this new spectrograph.

Coronal Spectra.—The work of Lyot points the way to practically continuous observation of the inner corona as well as the prominences on the sun. By using *perfectly* clean optical equipment, the clear atmosphere of Pic du Midi, and telescopes designated to eliminate every least bit of stray light, he has obtained in full daylight coronal spectra showing 11 bright lines from wave-length 3388 angstroms in the ultra-violet to two newly-discovered lines at wave-lengths 10747 and 10798 angstroms in the infra-red. Most remarkable of all has been his success in motion pictures of eruptive prominences; introduction of a filter transmitting only the region of the red line of hydrogen gives all the effect (and more!) that is obtained with the highly complex and expensive spectroheliographic equipment. The fineness of detail and the continuity of registration for even rapidly-changing eruptions far surpass anything previously produced.

STANDARDS AND CONSTANTS

Stebbins and Whitford have measured the magnitude and colors of the North Polar Sequence down to $11^{\mathrm{m}}6$ with the photoelectric cell. Agreement with the international scale is satisfactory from $6^{\mathrm{m}}5$ to the lower limit, after the necessary reduction from photoelectric to photographic scale is made. For the brighter stars there appears a scale-divergence, reaching about $0^{\mathrm{m}}15$ at fifth magnitude, with the photoelectric magnitudes the brighter. Seares believes that this represents the influence of absorption in the ultraviolet, which would affect the photographic but not the photoelectric measures. The result confirms Seares' previous conclusion that the region of the North Polar Sequence is one of moderate obscuration and selective absorption.

Williams has made a spectrophotometric determination of the color temperature of the AO star Vega by a photographic process, employing a comparison source calibrated for spectral energy distribution at Nela Park. He finds that the energy-curve of Vega approximates that of radiation from a black-body at 14,300°K, except that Vega shows a relative excess of radiation amounting to about $0^{\mathrm{m}}07$ in the wave-lengths around 5000 angstroms.

The great *General Catalogue,* in five volumes, is in the hands of astronomers after years of preparation at Dudley Observatory under Lewis and Benjamin Boss. It contains definitive postions and proper motions of 33,342 stars, including all brighter than seventh magnitude and thousands of fainter ones. All star catalogs beginning with Bradley's of 1755, have been studied and weighted, to make their proper contributions to the precise values embodied in the *Catalogue*.

Wilson and Raymond have determined the solar motion, precessional corrections and constants of galactic rotation out of the material of the *General Catalogue*, subdivided according to magnitude, proper motion and spectral type. The solar apex comes out at R.A. = 269°. D = + 30° with reference to the naked-eye stars and exhibits a remarkable northward trend of 4° per magnitude as the limiting brightness is decreased. There is also a pronounced change of the position with spectral type.

Russell and Miss Moore have calibrated the spectroscopic absolute nagnitudes of the 1872 stars in the Mount Wilson catalog by comparing the spectroscopic and trignometric parallax in small spectral-type groups. They find that the means of absolute magnitude for each group agree within 5% for the 1140 main sequence stars and perfectly for the 732 giants. Deviation of individual absolute magnitudes determined spectroscopically are necessarily underestimated by the process of "agreeing in the mean"; *e.g.* for dwarfs selected by spectroscopic criteria the deviations should be increased by 19%, while for giants not spectroscopically selected these should be multiplied by 1.6. Strömberg has studied the G and K stars in the same catalog, classifying them on the basis of reduced proper motion. He finds that the dwarf group as defined above contains many subgiants and believes that the corresponding corrections for spread have been thereby increased beyond their true values.

Schilt has investigated anew the errors of trigonometric parallaxes, with special reference to the effect of comparison stars at various distances from the parallax star. He finds, first, that there has been introduced for especially interesting stars a regression effect in the relation of probable error to comparison-star distance due, it is suggested, to a tendency on the part of observers to be more critical of the quality of plates accepted for measurement in these cases. Separating the stars of small proper motion into two groups, those for which the image-diameters of parallax and comparison stars differ by less than 0.006 mm and those for which they differ by more than that amount, Schilt studies the means of the differences between the parallaxes as determined at Yale and as determined at Allegheny, McCormick and the Cape; in each case the mean difference is decidedly greater numerically for the larger diameter-difference and in each of the two divisions the root mean square of the same differences is greater for the greater comparison-star distance. The mean algebraic observatory-differences attain values of —0″.0005 and —0″.0013 in the cases of nearby and distant comparison star sets, respectively, for large brightness-difference. This important investigation is being continued.

DeSitter and Brouwer have set up a consistent system of constants of astronomical importance. "Best values" of eight constants are adopted and from them some 32 others are derived; such modern effects as galactic rotation and secular slowing of the earth's rotation are introduced into the computations. Among the fundamental constants we may mention the solar parallax of 8″.8030 and the moon's mass 1/81.53 times that of the earth; the precession constant now appears as P = 5493″.157–0″.003692T (T in centuries from 1900) and the mass of the sun comes out as 327932 times the mass of the earth-moon system. These are typical of the changes from the Newcomb and Paris systems suggested by the authors in the interests of consistency.

THE SOLAR SYSTEM

On the evening of Jan. 25, 1938 there occurred what was probably the most brilliant display of aurora borealis in two centuries. Rays of green, pink and red converged towards the 'magnetic zenith" like giant umbrellaribs, and about 7 pm E.S.T. a brilliant red arch extended from east to west, probably unequalled by any known previous display, at least in middle latitudes. The spectacle was seen in both Europe and North America and was puzzling in that no unusual sun-spot activity was observed. The greatest magnetic storm since 1908 was recorded at Greenwich.

Cabannes and his colleagues report that interferometric study of the yellow radiation of the night sky shows it to be from sodium. They estimate the altitude of the luminescent layer as about 130 km. and suggest that the sodium is derived from meteoritic matter.

Lampland and Adel have found a new absorption band at 76,000° in the atmospheric spectrum, probably due to the presence of nitrogen pentoxide in the ozonosphere. They estimate, from these studies with a rock-salt prism, that the upper atmosphere contains about 1 molecule of the pentoxide to 100 of ozone.

Three sunspots large enough to be seen with the naked eye were recorded Jan. 18, April 14, and July 15, with areas 3100, 1500, and 2500 millionths of the disk respectively. Sun-spot activity was highest in July, 1937, then decreased until November, and then rose again so that the mean spot-numbers in May, 1938 were about equal to those of August, 1937. The average latitude of the spots at spot-maximum is generally 15° in the "high" maxima and 14° in "low" ones; it was still 16°.2 for the first four months of 1938, which thus leaves some doubt as to whether spot-maximum occurred in 1937 or in 1938.

An eruptive prominence photographed at Mount Wilson on March 20 reached the record height of 1,550,000 km above the chromosphere. It showed a velocity of 65 km per second the first hour, 135 the second, and 200 during the last half-hour before observation was stopped by clouds; this follows the so-called "first-law" of prominence motion.

Ten Bruggencate and his associates have shown, from a study of the granulation of the solar disk in the ultra-violet, that the simple cosine law for the variation of brightness from center to limb, is valid for at least 98% of the radius of the disk, counted from the center.

Cohn has studied the polarization of the inner corona of the 1932 and 1934 eclipses with filters in his polarigraphs chosen to avoid strong coronal lines. Close to the limb he finds the polarization least for all wavelengths but greater for the shorter waves than for the longer; he finds the effect with regard to wavelength reversed beyond 4′.5 from the limb. From his results he deduces that the coronal particles increase in mean diameter from the limb outward, probably averaging less than 1/100,000 cm in diameter near the limb and about 75% larger beyond heights of 125,000 miles in the corona.

Two "new" satellites of Jupiter were discovered by Nicholson on plates taken July 6, July 29 and later at Mount Wilson. Both are objects of the nineteenth magnitude and therefore probably only twenty-five miles or so in diameter. Herget has found that the orbit of Jupiter X is remarkably like that of VI and VII, and the orbit of XI appears to be almost as much like that of VIII and IX, the famous retrograde satellites.

Hermes, or 1937 UB, the Reinmuth asteroid which passed so near the earth in October, 1937, was not located again west of the sun in January, 1938; it is therefore in all probability permanently lost. Even if sighted at some future time it will perhaps not be recognized as the famous Hermes because the orbit will have been subjected to enormous perturbations meanwhile.

Eros was nearest the earth on Jan. 14. Roach and Stoddard observed its variation of brightness photoelectrically through one maximum and one minimum of light. They found the range of variation to be about $1^{m}.4$, agreeing well with Watson's prediction for this apparition.

The only comet sighted in 1938 (up to the time of writing) is Gale's Comet 1927 VI, found by Cunningham in the spring on Harvard search-plates.

Recognizing the validity of Luyten's criticism of Lyttleton's binary-star hypothesis of the origin of the planets (see THE AMERICAN YEAR BOOK, 1936), the latter has specialized the masses and conditions of the encounter, and believes that as a result the binary hypothesis is still possible and that it is not necessary to specialize still farther to the chance encounter of two stars in the vicinity of a third. He offers for consideration the case of the sun of mass 1, its companion of mass 2, and the intruder of mass 8, with an actual grazing collision of intruder with companion providing the rotation of the planets.

The satellites of the planets have been difficult to fit into any picture of origins, and it has been thought doubtful that masses as small as the terrestrial planets could have condensed directly from the hot stellar material. In another interesting paper Lytlleton considers the possibility of a great planet as the product of the assumed stellar encounter. He envisions this great planet as breaking up, from rotational instability, into two masses, Jupiter and Saturn, with a filament of material between. The ends of this filament are to go with the two as statellites and the middle portion is to leave them to become independent, the terrestrial planets and perhaps the moon.

THE STARS—GENERAL

Krook shows that the simple Saha formula for ionisation may safely be applied without modification in work on stellar atmospheres, even though it was derived on the assumption of thermodynamic equilibrium. If the continuous absorption coefficient is constant throughout the spectrum the corrections to Saha's equation (for example, Pannekoek's) can be considerable, but in the case where the coefficient increases strongly with frequency in the ultra-violet (of more real physical interest), correction is negligible.

Russell shows that, given a solution for a model star, of mass M and uniform composition, if the outer layers (assumed of very small mass compared to M) be removed and replaced with an equal mass of different molecular weight and opacity, a solution can be found differing from the given one very little except near the surface and hence reproducing the essential "observables" of the first star. Thus the general characteristics of the star will be determined by the properties of the main mass in the interior.

Gamow believes that the energy-liberation processes are probably of such a nature that they occur only at and near some definite temperature, say 10^7 degrees, as a sort of resonance effect. He pictures a shell-source model for stellar interiors instead of the usual one with temperature increasing all the way to the center. Inside the shell the temperature would be constant and the energy production negligible. As the star consumes its supply of hydrogen the radius of the shell would change very slowly, producing a slow change in the energy-production and therefore in the luminosity of the star.

Bengt Strömgren shows that the assumption that the ratio of the helium content to that of the heavy elements is 6 or more, is compatible with the mass-luminosity law but that no decision for or against the helium hypothesis can be made on the basis of the mass-luminosity law alone. The assumption of a constant ratio of helium to heavy elements leads to curves of constant hydrogen content on the Russell-Hertzsprung diagram very similar to those previously derived on the assumption of negligible helium content. For the sun, starting from pure hydrogen, addition of helium in itself increases the predicted luminosity but is offset by a decrease due to the resultant increase in the heavy elements. This situation obtains up to a mean molecular weight of 0.8 (corresponding to He 43%, H 43%, others 14%) beyond which an increase in the molecular weight leads to a decrease in helium content. If the ratio of helium to heavy elements is greater than 6 then either the mean molecular weight is greater than 0.73 or the star is practically pure hydrogen and the ratio governs a quantity of matter essentially negligible.

J. S. Plaskett analyses the radial velocities of the O and B type stars anew, dividing them first into four groups by class and magnitude. He shows that the troublesome K-term of about 4 km/sec always present in his earlier solutions for solar apex and galactic rotation, must arise from the 272 bright B3-B7 stars. Analysing these separately in longitude groups he finds that 90 stars in the southern sky force the high residual velocity on the group, that is, are of the character of a "stream" with velocity +7 km/sec. Removal of this "stream" velocity leaves a K term of +1.6 km/sec, practically the same for all 849 stars, and satisfactorily in agreement with the gravitational shift of +1.3 km/sec predicted for such massive stars by the theory of relativity.

THE STARS—SPECIFIC

Two more stars have been added to the list of those within 5 parsecs of the sun: Wolf 424, an M-type binary with a parallax of about 0″.4, and Ross 154, an MO star of absolute magnitude 15 and parallax 0″.362. This latter becomes one of the intrinsically faintest stars known.

Three stars are considered to be white dwarfs, namely one studied by Ramberg, of A type spectrum and absolute magnitude 11, and two discovered to be of this category by Kuiper, BD+71°31 and BD+72°94.

If the preliminary studies of Morgan and Kuiper are correct, Wolf 489 is a new sort of dwarf. If the trigonometric parallax of 0″.130 and the apparent visual magnitude of 14.2 are to be trusted, then its absolute magnitude is 14.8 and it would have to be M7 type to fall on the red-dwarf branch. Both men believe it to be of K type, however, so it should perhaps be called an orange "white dwarf". Ross 451 is perhaps like it.

No new novae have been reported so far this year. Miss Boyd discovered a super-nova in the nebula IC4719 on a plate taken October 11, 1934 and Mrs. Mayall a nova on a plate dated May 13, 1936.

Miss Davis has investigated the atomic spectrum of Antares with some thoroughness and made a beginning on the molecular spectrum. Of the 92 chemical elements she finds 34 definitely present, 26 definitely absent, 16 questionable as to presence or absence, and for the remaining 16 the data (laboratory or stellar) are insufficient. Of the elements known to be present in the sun only lithium and beryllium are definitely absent.

Hacker, continuing his earlier work on the spectrum of Arcturus, finds that the effective temperature of the photosphere of that star is about 3925°K if 5740°K and 4720°K are representative of the effective temperatures of solar photosphere and sun-spots respectively.

Probably the most important single contribution to astronomical knowledge during the year was the research by Kuiper, Struve and Strömgren on Epsilon Aurigae; it introduces to us stars of a hitherto quite unsuspected order of size and therefore merits a rather detailed discussion.

Epsilon Aurigae is a third-magnitude star known for a century to be variable. The visual light-curve by Schmidt and the photoelectric curves by Huffer and by Miss Güssow show beautiful constant minima, and the spectroscopic orbits by Ludendorff and the Yerkes men confirm it as an eclipsing binary. The period is 27 years; 190 days are required for the star to lose a little more than half its light; it remains at this low level 330 days, then another 190 days are needed for regaining of normal brightness. There is no observable secondary minimum. Difficulties appear at once: the depth of minimum implies two stars of equal brightness, and solution of the light curve alone suggests that the ratio of diameters of the two is about 3 to 1 and therefore surface brightnesses in the ratio 1 to 10. But then two spectra should appear on the plates at maximum light, whereas only one, of type F, is visible, and *that one persists through the minimum, in which that star should be eclipsed.* Furthermore certain fluctuations and asymmetries of form of some lines hold over from outside eclipse, into it and even through it. Hence, somehow, the spectrum being registered must be produced by a single F-type component. Resolution of the dilemma has been a joint project of the three men.

It is first shown that inclinations of the orbit plane to the "plane of the sky" of more than 70° necessarily lead to excessive absolute magnitudes for the F component; on the other hand if the indination is less than 30° there could be no eclipse unless the I star (it turns out to be infrared) is so large that F actually grazes or plunges into it at periastron, since the orbital eccentricity is 1/3. To be sure of stability in the face of tides raised in the I star as F passes periastron, it appears that the inclination needs to be greater than 60°. Settling on an inclination of 70° as the best value obtainable the following results appear:

diameter of I star ⅓ major axis of relative orbit
mass of I star 25 times the sun's mass
mass of F star 36 times sun's mass
diameter of F star 190 times sun's diameter
diameter of I star 2700 times sun's diameter

At maximum eclipse the outer limb of the F star has dipped behind the disk of the I by only one-third the F diameter. Furthermore, the dimensions of the system are such that the outer regions of I are actually nearer to its companion F than to its own center.

It is next shown, from the study of the spectra themselves, that there is no appreciable filling-in of the lines of F by the continuous spectrum of I, indicating that I does not contribute any appreciable fraction of the light, in spite of its enormous size. The temperature of I must then be about 1000°C.

The question is now: how can the I star obstruct the light of F at all, or if it does, why should the eclipse-curve not show a rounded minimum? The answer to this is that the ultra-violet radiation of F produces ionization in a layer of I which would otherwise be practically transparent; (*a layer* because the ultra-violet is gradually absorbed in the very process). Then electron scattering in this "stellar Heaviside layer" functions on the visible radiation passing through it, weakening all wave-lengths equally to less than half their original intensity. It is realized that this process requires an amount of ultra-violet higher than that usually credited to an F star, but perhaps not unreasonably high in view of recent evidence that stars do not all follow simple Planck radiation formulas.

INTERSTELLAR MATTER

The sodium lines of interstellar origin are both observed to be double in some six blue stars, four of them stars in which Beals had previously found the H and K lines of ionized calcium also complex.

Merrill has located the interstellar D lines on objective-prism spectra; D_1 and D_2 are blended on the plates, and together stronger than the K line. He suggests that the density of interstellar gas may tend to decrease after a certain distance from the sun, because the intensities of the lines do not seem to increase as fast as he would expect.

Merrill and Sanford find that the ratio of intensity of D_2 to K derived first from direct comparison of equivalent widths and second from their previously published distance-intensity curves, is 1.6, implying about three times as many atoms of ionized calcium as of neutral sodium. Assembling all available measurements of the interstellar D, H, and K lines they plot curves of residual radial-velocity against longitude with the stars divided into four distance groups. Double sine-curves characteristic of galactic rotation are clearly shown on the graphs, with the galactic center appearing at longitude 329° and Oort's A=14.8 km/sec at 1000 parsecs. Some discordance between individual curves may be the result of high obscuration (0.9 magnitude per kiloparsec) or of a tendency for the density of the interstellar gas to decrease beyond, say, 1000 parsecs.

Merrill and Wilson discuss six unidentified lines which they believe to be of interstellar origin even though they differ in character from other such lines, being somewhat diffuse and not sharply defined. The approximate wave-lengths of the six are

5781, 5797, 6203, 6270, 6284 and 6614 angstroms. The two authors point out that because of the low density of interstellar matter and the long intervals between collisions, particles capable of emitting light must spend practically all their time at the level of least energy; hence interstellar atomic absorption lines should be resonance lines and well known in the laboratory. These facts, together with the great widths of the lines, argue against atomic origin, while the correlation between color excess and the intensity of T6284 seems to point towards a physical relationship between space-reddening and the formation of the spectral lines. They therefore suggest the possibility that the lines originate in interstellar clouds of small solid particles. Beals independently suggests the same origin for his diffuse line at wave-length 4430 angstroms.

The intensive study of diffuse nebulosities begun a few years ago at Yerkes continues, with important results. Some diffuse nebulae show continuous spectra only, even with the 150-foot spectrograph, and are therefore definitely reflection nebulae; the red nebula near Antares and the nebula in the Pleiades are examples. Most nebulae heretofore regarded as bright-line objects, show a faint continuous spectrum as well, indicating that their light is partly reflected and partly an excitation effect. This is the case with the Great Nebula in Orion, where the energy-distribution of the continuous background almost matches that of the Trapezium stars. The "dark" nebulosity called the Horsehead, and nearby regions, show emission lines of hydrogen and a forbidden line of ionized oxygen at wave-length 3727A. Excitation of bright lines by standard radiators would require temperatures of 20,000° or more, but evidence is accumulating that some relatively cool stars, for example Deneb with a surface temperature of about 10,000°, emit strongly in wave-lengths below a thousand angstroms. This may be because the gases near their surfaces are more transparent to extreme ultraviolet than to visible light.

EXTRA-GALACTIC OBJECTS

Miss Mohr has discovered a planetary nebula superposed on the Larger Magellanic Cloud, of angular diameter an eighth of a degree. Its distance is uncertain, but if estimated at 6500 light-years, implies a linear diameter for the nebula of 13 light-years.

H. W. Babcock has investigated the rotational velocity of the Great Nebula in Andromeda out to a distance of half a degree from the center. He finds a constant angular velocity out to a radius of 4′, confirming the work of Pease. This corresponds to a linear velocity of 90 km/sec at the 4′ limit. Beyond this limit the velocity falls off, reaching zero at a radius of 10′; then it increases and maintains between the distances 22′ and 30′ from the center, a constant linear value of 150 km/sec.

Shaply discusses the Harvard counts of nebulae in the south galactic hemisphere and finds a very strong asymmetry in the numbers in corresponding regions on opposite sides of the south galactic pole. He attributes this to a real structural asymmetry of the metagalactic system. He considers this as evidence that Hubble's counts are not reliable at the nineteenth magnitude and that therefore the much-discussed constant B in the relativity formula is not yet accurately determined. It is well known that B must be 4.0 if the apparent recession of the nebulae is real and 3.0 otherwise. Shaply therefore believes that there is as yet no evidence from nebular counts and the red-shift need not be attributed to recession.

A new type of stellar aggregation has been found on the Harvard plates from South Africa, as the result of exposure of a supernormally sensitive plate under unusually good observing conditions on a particular region in the constellation of Sculptor. Only very large or very small telescopes will show the cluster; the former show the individual stars and the latter the condensation effect in the field. The diameter of the cluster is about one and a half degrees, the most luminous members are highly concentrated towards the center, and it is estimated that there may be 10,000 stars brighter than 19.6 magnitude. On the assumption that the intrinsically-brightest stars are of magnitude —1.5 the cluster is at a distance of 250,000 light years and has a diameter of about 6000 light-years; it is therefore to be thought of as an open globular cluster or a symmetrical Magellanic Cloud.

PERIODICAL PUBLICATIONS

American Journal of Mathematics
Johns Hopkins Press, Baltimore, Md.
American Mathematical Monthly
Menasha, Wis.
Astronomical Journal
Albany, N. Y.
Astrophysical Journal
5750 Ellis Ave., Chicago.
Journal of Mathematics and Physics
Massachusetts Institute of Technology, Cambridge, Mass.
Popular Astronomy
Carleton College, Northfield, Minn.
School Science and Mathematics
Menasha, Wis.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Astronomical Society, University Observatory, Princeton, N.J.

American Mathematical Society, 531 West 116th Street, New York City.

Mathematical Assn. of America, 33 Peters Hall, Oberlin, O.

National Academy of Sciences, 2101 Constitution Ave., N.W., Washington, D.C.

Science Service, 2101 Constitution Ave., N.W., Washington, D.C.

DIVISION XIX
ENGINEERING AND CONSTRUCTION

STRUCTURAL ENGINEERING

By W. C. Huntington

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DAMS

General.—There has been great activity during the year in the field of dam construction. This can be attributed quite largely to the availability of Federal funds through P.W.A. and to the Flood Control Act passed by Congress in 1938 which gives the Federal Government, for the first time, the authority to construct and operate flood control reservoirs without the approval of local authorities and to condemn land for such projects.

Work continued during the year on Grand Coulee Dam, the Tennessee Valley Authority dams, the Ohio River Navigation dams and the last of the 26 navigation dams on the Upper Mississippi River between St. Louis and St. Paul. Actual construction was inaugurated on a major unit of Central Valley Project with the starting of Chasta Dam, which is to be the highest gravity section dam in the world; and on the Colorado-Big Thompson Project which is to bring water from the western slope of the Continental Divide through a 13-mile tunnel to farm lands on the eastern slope. Flood control dams were started in many parts of the country including the upper Ohio River basin, New England, the Los Angeles region and Texas. Construction continued on several irrigation dams of the U.S. Reclamation Bureau and new dams were started. The partial failure of Fort Peck dam during construction has again focused the attention of engineers on the uncertainties which exist in earth dams of the hydraulic fill type.

Because of these uncertainties, and especially because of the marked developments which have occurred during recent years in earth moving and compacting equipment, the compacted or rolled fill earth dam seems to be replacing the hydraulic fill dam which, until recently, has had the advantage of the lower cost. Also, methods have been developed during recent years for determining the proper amount of compaction, the proper moisture content, and the degree of stability of rolled earth fills. The hydraulic fill method probably still has its field of usefulness but it is much more restricted than it was a few years ago while during the same period the field for the rolled fill has greatly expanded. The popularity of the rolled fill earth dam is indicated by the number of dams of this type listed in the paragraph headed "Other Dams."

Grand Coulee Dam.—The completion of the project, of which this dam is the outstanding feature, was assured by the award Jan. 28, 1938 of a contract to raise the dam to its final height of 550 feet above the foundation; to complete the left power house and to construct the foundation for the pumping plant. Information concerning this project, which was inaugurated by an initial allotment of $15,000,000 by P.W.A. July 27, 1933, is included in this section of The American Year Book from 1934 to 1937. The first contract included the construction of the lower 177 feet of the dam. The principal features of this project are the dam across the Columbia River 92 miles by highway west from Spokane, Wash. to create a reservoir with a total capacity of 10,000,000 acre feet and a usable capacity of about 5,200,000 acre feet and to raise the water level about 355 feet; a power plant with a capacity of 2,700,000 horse power, to generate power for raising water from the river reservoir into a balancing reservoir 27 miles long to be provided in the Grand Coulee on the south side of the river, with excess power for sale; and a pumping plant to raise water about 300 feet into the balancing reservoir for use in irrigating 1,200,000 acres of land lying from 10 to 100 miles south of the south end of the balancing reservoir. Water will be conveyed from the south end of the balancing reservoir through an 11-mile canal to the head of a 156-mile canal along the east side of the area to be irrigated and a 101-mile canal along the west side of this area. Nearly 1,000,000 acres will be watered by gravity from these canals. Irrigatable land, which has an area of 220,000 acres and lies about 70 feet above the gravity-canal system, eventually will be served by auxiliary pumping plants. The balancing reservoir is to be formed in the upper Grand Coulee by constructing a dam at each end. The estimates of cost of the project are $119,000,000 for the main dam, $67,000,000 for the power plant and $208,000,000 for the irrigation system including the pumping plant, the balancing reservoir, and the canal system, making a total cost of nearly $400,000,000. The main dam has a total volume of over 11,000,000 cubic yards of concrete or more than three times that of Boulder Dam. It contains more concrete than is contained in all of the other 138 dams so far constructed by the Bureau of Reclamation, including Boulder Dam. However, Boulder Dam is 176 feet higher than Grand Coulee Dam and creates a reservoir with nearly six times the volume of usable storage. The dam is scheduled for completion in 1942.

Fort Peck Dam.—On Sept. 22, as this great structure was nearing completion, a slide 2,000 feet long occurred at the east end on the upstream side, displacing 8,000,000 cubic yards of the embankment. Eight workers were killed and several pieces of construction equipment were buried. The dam is 9,000 feet long and when completed will have a volume of 100,000,000 cubic yards. It is being constructed by the hydraulic fill method, earth-laden water being sucked from the river bottom by giant dredges which pump it to the outer edges of the top of the embankment, the coarse material being deposited in the outer portions of the embankment to give it stability and the finer material being carried to a puddle in the center portion where it forms an impervious core which consolidates, eventually, as the water drains out. Water is being stored behind the dam. The water level at the time of the slide was about 20 feet below the break in the embankment. A board which has been appointed to determine the cause of the failure had not reported at the close of the year. The dam is being constructed by the Corps of Engineers of the U.S. Army on the upper reaches of the Missouri River in Montana, at a cost of over $100,000,000, to regulate the flow of the river, control floods, and provide water for navigation during the low water periods so that vessels with draft of nine feet can navigate as far up the river as Sioux Falls, Ia. Construction was started in 1934. Comments on the project are included in this section of The American Year Book for the years 1934 to 1937 inclusive.

Alcova and Seminoe Dams.—Alcova Dam on the Kendrick project on the North Platte River in central Wyoming was completed early in the year and Seminoe Dam was completed just before the close of the year but work continued on the power house at Seminoe Dam. Alcova Dam is a rolled-earth fill diversion dam with a maximum height of 235 feet above the foundation and a crest length of 900 feet located at the mouth of Alcova Canyon about 30 miles southwest of Casper, Wyo. Seminoe Dam, located about 33 miles northeast of Rawlins, Wyo., is a concrete arch with a height of 265 feet above the foundation and a crest length of 540 feet. It creates a reservoir with a capacity of about 1,000,000 acre feet which provides for storage, river regulation and power development. Comments concerning this project are included in this section of The American Year Book for the years 1934 to 1937 inclusive. The Kendrick Project is being carried out by the United States Reclamation Bureau.

Parker Dam.—This structure was placed in operation July 1 when the last river diversion tunnel was closed. It is an over-flow concrete arch dam with five crest gates 50 feet wide by 50 feet high, located on the Colorado River 155 miles downstream from Boulder Dam. Its function is to divert water into the Colorado River Aqueduct being constructed to supply water to Los Angeles and the surrounding metropolitan area. The dam is notable because it was necessary to extend the dam down nearly 250 feet below the stream bed to secure a rock foundation. The total height of the dam from the foundation to the roadways across the top is 320 feet. Construction started in October, 1934 as described in The American Year Book, 1934, page 661 and in this section for each succeeding year. Parker Dam was designed and constructed by the United States Reclamation Bureau with funds provided by the Metropolitan Water District of Southern California. The title of the dam rests with the Federal Government.

Shasta Dam.—Work started in October on Shasta Dam of the Central Valley Project in California. This structure is located a few miles north of Redding, Calif. on the Sacramento River. It is a curved solid gravity structure 560 feet high and 3,500 feet long with a volume of 5,500,000 cubic yards of concrete and will create a reservoir with a capacity of 4,500,000 acre feet. The dam will be the highest gravity section dam in the world, being about ten feet higher than Grand Coulee Dam with about one-half its volume. It is the major unit in the Central Valley Project which is being constructed to provide water for irrigation in Sacramento and San Joaquin Valleys, to control floods, to improve navigation, to correct salt water invasions in the Sacramento-San Joaquin delta, and to generate power. The reservoir will submerge the small town of Kennett and require the relocation of several miles of railway and highway. The cost of the dam is estimated at $170,000,000. The Central Valley Project was described in The American Year Book, 1936, p. 634. This project is being carried out by the U.S. Reclamation Bureau.

Friant Dam.—Plans for this structure, which is another important unit in the Central Valley Project of California, have been altered to increase the height from 250 feet to 265 feet, the increase in reservoir capacity corresponding to this increase of 15 feet in height being set aside for flood control. Because of the change in plans, construction did not start during the year as was expected. The project is being carried out by the U.S. Bureau of Reclamation.

Keystone Dam.—Construction started during the year on this structure across the North Platte River near Keystone, Neb., which was described in The American Year Book, 1937, p. 662. It is a hydraulic-fill earth dam 130 feet high with a length of 8,000 feet, a volume of 20,000,000 cubic yards which will create a reservoir with a capacity of 2,000,000 acre feet. It is being constructed by the Central Nebraska Power and Irrigation District.

Green Mountain Dam.—The contract for the construction of this first unit on the Colorado-Big Thompson project was awarded Nov. 16 by the U. S. Bureau of Reclamation for $4,226,000 for the dam and power plant. Both of these structures are located on the Blue River in western Colorado near Kemmling. This project provides for the bringing of surplus water from the headwaters of the Colorado River on the western slope of the Continental Divide through a 13-mile tunnel under the divide, at an elevation of about 9,000 feet, to augment the supply of irrigation water on the eastern slope of the Divide in northeastern Colorado. Since these lands lie at a much lower elevation than the tunnel, power is to be generated at various points between the east portal of the tunnel and the irrigated lands. The water stored in Green Mountain Dam will not be diverted to the eastern slope but will replace water which is diverted and thereby protect the users in the Colorado River Basin. The dam is to be of the rolled earth fill type 270 feet high with a crest length of 1,300 feet. It will be exceeded in height by only one dam of its type, *i.e.* San Gabriel No. 1 whose height is 375 feet. The Colorado-Big Thompson project is described in THE AMERICAN YEAR BOOK, 1937, p. 665.

Bartlett Dam.—This structure is a reinforced concrete multiple-arch dam being constructed on the Verde River 54 miles north of Phoenix, Ariz. Because of its height of 273 feet above the foundation rock, it will be the highest dam of its type in the world. Its reservoir, with a capacity of 201,500 acre-feet, will be used to store water to irrigate lands in the Salt River Valley and supplement the present water supply. The dam was started in August, 1936 and is scheduled for completion in May, 1939. It is being constructed under the direction of the U.S. Bureau of Reclamation.

Ruby Dam.—Construction, which started in December, 1936, was continued during the year on Ruby Dam on the Skagit River one and one-half miles below the mouth of Ruby Creek and 125 miles northeast of Seattle. The dam, which is being constructed in three stages, is planned for an ultimate height of 648 feet and a crest length of 1,200 feet. The volume of the ultimate dam will be 3,000,000 cubic yards and the storage capacity of the reservoir 3,000,000 acre feet. A power house containing four 120,000 horse power generating units operating under a 450-foot head is planned immediately below the dam. The first stage which is now under construction calls for an arch dam 220 feet high. It is expected that a contract for increasing this height 215 feet will be awarded as soon as the present contract is completed. This will form a structure 435 feet high. Ruby Dam is located at the upper end of the reservoir created by Diablo Dam, an arch structure 389 feet high completed in 1930. The dam is being constructed for power and flood control by the Department of Lighting of the City of Seattle.

Gallipolis Dam.—The first roller gate dam on the Ohio River, located at Gallipolis, O., was dedicated June 12. It consists of eight hollow steel cylinders 29.5 feet in diameter and 125 feet long laid horizontally in a line across the river on a concrete foundation forming a sill and with a concrete pier between each pair of cylinders and at each end of the dam. The row of cylinders forms a dam which raises the water level as required for navigation purposes but the cylinders can be raised so as to permit the free flow of water during floods. The dam is the largest of its type in the world. It has a total length of 1,149 feet. Two navigation locks are provided. The structure was designed by the Corps of Engineers of the U. S. Army and constructed under its direction.

Santee-Cooper Dams.—The South Carolina Public Service Authority is constructing a dam six miles long on the Santee River and one dam two miles long on the Cooper River, with 26 miles of dike, to generate power at Cooper, S.C. The estimated cost of this project is $37,500,000 of which $10,000,000 is covered by PWA allotment.

Gilbertsville Dam.—Construction started during the year on this dam which is one of the units in the plan developed by the Tennessee Valley Authority to improve the Tennessee River for navigation as described in THE AMERICAN YEAR BOOK, 1936, p. 630. It is located at Gilbertsville, Ky. near the junction of the river with the Ohio and will form a pool extending 185 miles upstream to Pickwick Dam. The Senate approved the starting of construction of this dam and provided an initial appropriation of $2,763,000 after the House had dropped this item from its bill.

Hiwassee Dam.—The placing of concrete started in July on this storage dam located on the Hiwassee River below Murphy, Tenn. It is one of the units in the T.V.A. development and is of the gravity section type with a height of more than 300 feet and a length of 1,255 feet, creating a reservoir with a capacity of 360,000 acre feet.

Cost Distribution on T.V.A. Dams.—President Roosevelt approved the distributing of the costs of Wilson, Norris, and Wheeler Dams as follows: power, 52%; flood control, 20%; navigation, 28%. The investment in these dams is established as: Wilson, $30,120,000; Norris, $31,532,120; Wheeler, $32,473,542.

New England Flood Control Dams.—Federal funds amounting to $11,500,000 were provided in October to start construction on projects which had previously been authorized by Congress. In accordance with the 1938 flood control act, the Federal Government will pay the entire cost of such projects. The plans include dams on tributaries of the Connecticut River at Union Village and Surry Mountain, Vt. and Knightsville and Birch Hill, Mass.; and on the Merrimack River at Franklin Falls and River Hill, N.H.

Orange County (Calif.) Flood Control Dams.—Plans are being prepared by the War Department for eight flood control and water conservation dams on each of eight streams in Orange County, California. These will be rolled-earth fill structures whose total cost is estimated as $15,248,000 to be paid mostly by the Federal Government although $2,500,000 will be supplied by a county bond issue. The maximum height of the dams varies from

OTHER DAMS UNDER CONSTRUCTION IN 1938

Name	Location	Purpose	Type	Height Ft.	Length Ft.	Volume Cu. Yd.	Reservoir Cap. Acre Feet	Cost Dollars
Almogordo	N. M.	I	R. Fill	142	2,900	1,700,000	......	1,800,000
Arkport	N. Y.	F	R. Fill	112	1,205	......	......	1,400,000
Boca	Cal.	I	R. Fill	110	1,650	1,010,000	40,800	960,000
Caballo	N. M.	F, I	R. Fill	90	4,250	1,300,000	......	1,300,000
Cajalco	Cal.	W	R. Fill	194	....	......	100,000	......
Conchas	N. M.	F, I, W	Grav.	735	1,250	830,000	600,000	......
Copper Basin	Cal.	W	Arch	160	....	......	20,700	......
Crooked Creek	Pa.	F	R. Fill	143	1,480	......	......	2,400,000
Deer Creek	Utah	W, I	R. Fill	155	1,400	3,000,000	150,000	2,650,000
El Azucar	Mex.	I	R. Fill	138	18,000	5,620,000	1,700,000	......
Fort Supply	Okla.	F	R. Fill	....	....	......	......	......
Grand River	Okla.	P, F	M. A.	155	6,550	......	......	20,000,000
Hansen	Cal.	F	R. Fill	110	9,050	13,000,000	57,000	......
Imperial	Cal.-Ar.	I	S. B.	45	3,440	......	Diversion	7,500,000
Possom Kingdom	Tex.	F	M. A.	150	....	......	750,000	5,000,000
Prado	Cal.	F	R. Fill	100	2,350	......	224,500	6,700,000
Sardis	Miss.	P	H. Fill	100	13,000	......	......	10,400,000
Tionesta	Penn.	F	R. Fill	154	1,050	......	......	2,625,000
Townes	Va.	P	....	133	575	......	......	......
Tygart	W. Va.	F	Grav.	240	1,850	1,200,000	327,000	18,300,000
Vallecito	Colo.	I	R. Fill	125	4,000	3,500,000	......	3,000,000
Whitney Point	N. Y.	F	R. Fill	90	1,000	......	......	......

Purposes; I = Irrigation, F = Flood control, W = Water supply, P = Power, N = Navigation.

Types; R. Fill = Rolled earth fill, H. Fill = Hydraulic earth fill; Grav. = Concrete solid gravity; M. A. = Multiple Arch S. B. = Slab and buttress.

45 feet to 165 feet. The first dam to be started is Prado Dam on the Santa Ana River.

Upper Mississippi River Dams.—The last of the 26 dams to be constructed on the upper Mississippi River between St. Louis and St. Paul is Dam No. 25 which was started during the latter part of the year near Cap au Gris, Mo., 61 miles above St. Louis. These dams, constructed at a total cost of about $150,000,000 as described in The American Year Book, 1936, p. 629, provide a channel with a minimum depth of nine feet.

BRIDGES

Building Activity.—Since the recent completion of the record-breaking Golden Gate and San Francisco-Oakland Bay Bridges, no such outstanding structures have been undertaken but several bridges with spans which would have been considered notable a decade ago have been completed or started. Largely because of the demands of an ever-increasing highway traffic and because of Federal financing through PWA, the construction of highway bridges has continued on a high level of activity.

Baton Rouge Bridge.—Construction continued during the year on this bridge which was started in 1937. It is a combined railway and highway bridge over the Mississippi River at Baton Rouge, La. of the continuous steel truss type with two 858-foot spans, one 650-foot span, and two 490-foot spans. It is notable because of the depth of its foundations, two of the river piers extending 180 feet below the low water level. This depth is exceeded only by piers of the San Francisco-Oakland Bay Bridge which extend to a depth of 240 feet below low water. The cost of the bridge is estimated as $10,000,000.

Cairo Bridge.—This structure, across the Ohio River at Cairo, Ill., was opened to traffic July 1. It is a steel highway toll bridge, of the multiple-cantilever type, with a total length of 5,865 feet including one 800-foot and two 650-foot main river spans. The total cost of the bridge and approach roads was $2,500,000 which was shared by PWA and the States of Illinois and Kentucky. The bridge replaces ferries which formerly operated across the river at this point. Dedication ceremonies were held on Nov. 11.

Galveston Causeway.—The new causeway, joining the island on which Galveston, Tex. is located with the mainland nearly two miles away, was completed during the year. It is a reinforced concrete viaduct 8,200 feet long divided into continuous three-span units. Hurricanes have partially or wholly destroyed two earlier structures at this location and the third was abandoned because it became inadequate to meet the needs of modern motor traffic. The present structure is so designed as to offer a minimum obstruction to the passage of waves rather than to depend upon its mass to resist them as in the case of the structure it replaced.

Neches Bridge.—The largest bridge in Texas was completed early in the year across marsh land near Port Arthur. It is 7,750 feet long with a steel cantilever river-crossing consisting of a 680-foot main span and two 374-foot anchor arms. The approaches are steel plate girder spans. In the design of this structure, particular attention was paid to providing resistance to hurricanes. The cost of the bridge was $2,750,000. (See The American Year Book, 1937, p. 664.)

Bluewater or Port Huron Bridge.—This international highway toll bridge over the St. Clair River between Port Huron, Mich. and Sarnia, Ont. was completed in August. Its principal feature is a cantilever with an 871-foot main span and two 326-foot anchor arms. The approach spans on the American side have a total length of 2,283 feet and on the Canadian side there is a total length of 2,657 feet, giving a total length of about a mile and a quarter.

Thousand Islands Bridge.—This is another international highway bridge. It crosses the St. Lawrence River at the Thousand Islands with five different bridges. On the American side there is a suspension bridge with a main span of 800 feet and two 350-foot side spans. On the Canadian side, a suspension bridge with a 750-foot main span, a continuous steel truss bridge with two 600-foot spans, and a steel arch with a span of 348 feet. The span which actually crosses the international boundary is a 90-foot concrete rigid frame bridge. Approach and connecting spans give a total length of 4,500 feet on the American side and 3,330 feet on the Canadian side. This bridge, which has been under consideration for 50 years, was dedicated Aug. 18, in the presence of President Roosevelt and Prime Minister King of Canada.

Deer Island Bridge.—The erection of the superstructure of this highway bridge was in progress at the close of the year with completion scheduled for early 1939. The principal feature of this structure is a suspension bridge with a main span of 1,080 feet and two side spans of 480 feet. It crosses Eggemoggin Reach, connecting Sedgwick, Me. on the mainland with Little Deer Island and joins a causeway, connecting the two Deer Islands, which was constructed some time ago. The suspension bridge has steel towers extending 185 feet above the tops of the masonry piers. The roadway is suspended from two 7½-inch parallel wire steel cables 23.5 feet apart.

Middletown Bridge.—On Aug. 6 a highway bridge between Middletown and Portland, Conn. was opened to traffic. It consists of two 600-foot span three-hinged tied steel arches with a suspended roadway. The bridge, which is the largest in Connecticut, has a total length of 3,420 feet including approaches. Its cost was $3,500,000.

Lions Gate Bridge.—A suspension highway toll bridge across the First Narrows at Vancouver, British Columbia, was opened to traffic in November and will be dedicated during the summer of 1939. It is known as the Lions Gate Bridge. The main span is 1,550 feet and the side spans are 615 feet. A vertical clearance of 200 feet is provided for shipping. The roadway is 29 feet wide and bordered by 5-foot sidewalks. The total cost was about $6,000,000.

Lake Washington Bridge.—Plans have been approved and PWA financing arranged for the construction of an unusual type of highway bridge across Lake Washington at Seattle. Because of the depth of water, which is from 150 to 180 feet, and of the 150 feet or more of soft mud in the bottom of the lake, a bridge supported by piers in the usual manner was not considered feasible. The only alternative was a pontoon bridge in which the roadway is supported on specially designed boats or pontoons which are held in position by anchoring with steel cables attached to large blocks of concrete sunk in the soft mud forming the lake bottom. The pontoon bridge which has a total length of 5,671 feet is made up of reinforced concrete pontoons 59 feet wide, 350 feet long, and 14.5 feet deep subdivided into numerous cells by bulkheads. These will be placed end to end and joined together to support a roadway seven feet above the water. A unique feature of the bridge is a 200-foot draw span to permit the passage of boats. This consists of a pontoon which can be floated back into a slot provided between the traffic lanes of one of the adjoining sections of the fixed bridge. This section is widened so as to maintain the same width of traffic as is provided on the rest of the bridge. The pontoons will be constructed at convenient points on the lake and floated into position.

Narrows Bridge.—Bids were opened in September for a highway bridge across the Narrows in Puget Sound near Tacoma, Wash. This is to be a suspension bridge with a center span of 2,600 feet and side spans of 1,300 feet. The total length of the bridge, including approaches, is 5,500 feet. A 26-foot roadway is provided. The cost is estimated as $6,000,000 and the time of completion as June, 1940. A PWA grant of $2,700,000 was made for this structure.

Whitestone Bridge.—Construction continued during the year on the Bronx-Whitestone Bridge, a 2,300-foot suspension span across the entrance to Long Island Sound at New York City. This structure was started in June, 1937 and is scheduled for completion in 1939 in time for the World's Fair at New York.

Montana Bridge Disaster.—One of the worst railroad disasters in recent years occurred on June 19 when a passenger train of the Chicago, Milwaukee, St. Paul, and Pacific Railroad plunged into Custer Creek about 25 miles east of Miles City, Mont. About 50 lives were lost. The bridge over this stream had become weakened due to the undermining of the piers by a flood caused by a cloudburst which occurred at some distance upstream from the bridge. There was no storm at the bridge site nor along the railroad. A track walker, who had crossed over the bridge shortly before the disaster, noticed no water in the stream which is dry nine months of the year. The bridge consisted of three 50-foot steel plate girder spans on concrete piers and five 16-foot concrete trestle spans consisting of concrete slabs resting on concrete piers.

Niagara Arch Failure.—On Jan. 27, 1938 the famous steel arch bridge over Niagara Gorge below the Falls was torn from its foundation and wrecked by the worst ice jam on record at this point. This bridge, with its span of 840 feet, was the longest span arch bridge in the world when it was completed in 1898. It was a deck structure supported by two steel arches. The site was first bridged in 1868 by a suspension bridge with wood towers and floor system. The towers and deck of this bridge were replaced in 1888 by steel construction. The next year, this deck was carried away by a windstorm. Construction on the last bridge started in 1895. It is planned to construct a new bridge at this site in the near future.

MISCELLANEOUS PROJECTS

Queens-Midtown Tunnel.—A fire at the Manhattan heading of Queens-Midtown Tunnel on June 27 caused the heading to be flooded. Unwatering was completed on Aug. 10. This project is described in The American Year Book, 1937, p. 664.

Colorado River Aqueduct.—San Jacinto Tunnel on the Colorado River Aqueduct was holed through Nov. 19. This tunnel, which is 13.1 miles long, is the last of 38 tunnels, totalling 108 miles in length, to be completed. The 392-mile aqueduct and distribution system was 90 per cent completed on that date. Work on the San Jacinto Tunnel was made particularly difficult because of large inflows of water under high pressure. The inflow reached 15,800 gallons per minute near a single working face. Pressures as high as 600 lb. per sq. in. were encountered. The aqueduct is designed for an ultimate capacity of 1,500 cu. ft. per second but the initial provision is for 600 cu. ft. per second. This project, as described in The American Year Book, 1937, p. 666, will take water from the Colorado River at Parker Dam, raise it 1,600 feet over the intervening divide by pumping in several stages, and deliver it to 13 coastal cities in the Los Angeles Metropolitan district. The total cost of the project is estimated as $220,000,000 for the first stage of the development which is now nearing completion and $283,536,000 for the ultimate development with the capacity of 1,500 cu. ft. per second. The main aqueduct tunnels, canals, and conduits are constructed for full capacity delivery.

Delaware River Aqueduct.—Construction continued during the year on the 85-mile tunnel which is the principal feature of this project and which is to bring water at the rate of about 800 cu. ft. per second from the Delaware River to New York City to supplement its present supply. The estimated cost of the project is $273,000,000. This project is described in The American Year Book, 1937, p. 665.

Chicago Subway.—A PWA grant of $18,000,000 has been made partially to cover the cost of the first unit of the proposed $40,000,000 subway for Chicago. The grant requires the city to unify all of the surface, elevated, and bus services in the city.

Colorado-Big Thompson Project.—The first unit of this project to be placed under construction is the

Green Mountain Dam, a rolled-earth fill 270 feet high, described under "Dams" in this section. Other information concerning this project is included in that description. A complete description is given in THE AMERICAN YEAR BOOK, 1937, p. 665.

Los Angeles Terminal.—The separate railway lines serving Los Angeles were moving into the new $10,000,000 Union Terminal at the close of 1938.

REFERENCES

For current information concerning structural engineering the reader is referred to the *Engineering News-Record* from which most of the information used in preparing this section was obtained. Other important references on dams are the *Reclamation Era* published by the U.S. Reclamation Bureau, and the *Western Construction News*.

MECHANICAL ENGINEERING

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GENERAL

In indicating those phases of mechanical engineering which received greatest emphasis during 1938, the prominence of the economic and social aspects must be recognized. The most reliable criterion would be the pages of published texts, and it is safe to assert that never before has so much space in the periodical literature of the field been devoted to the relations between mechanical engineering and the problems of society. Numerous books, also, have appeared which deal with the same topics. This is to be expected, doubtless, for mechanical engineers have concerned themselves for many years with the organization and management of industry. Questions of labor relations, systems of compensation, unemployment relief and similar matters have been considered the particular problems of the mechanical, and their subdivision, the industrial, engineers. With the clash of labor organizations, the enactment of Federal legislation dealing with hours, wages and security, and the vast program of relief work before the public, it is quite natural for thoughtful mechanical engineers to contribute ideas and plans from their long experience. Interest in management problems, however, has not displaced research in the technical phases of the profession, and several important developments in strictly engineering activity mark progress during the year.

RESEARCH

In this section has been noted for several years the work of the research committees of the American Society of Mechanical Engineers. The reader should not infer that these committees, alone, carry forward the investigations which are worth recording. Much important and valuable research takes place in industrial and educational laboratories. Reports of industrial research are frequently for home consumption only, and quite properly so. When made available for the public they often appear in the literature of the A.S.M.E. and are noted in the report of its research committees. University laboratories publish bulletins which are usually briefed in *Mechanical Engineering* or are the source of technical papers presented at society meetings. Through the A.S.M.E., therefore, there is a single channel to most of the worthwhile results of technical investigation in this division of engineering.

Under the general head of lubrication should be noted research on viscosity under high pressure now being carried on at Harvard University, studies of temperature distribution in bearings, and boundary film phenomena. The Engineering Foundation has granted financial assistance for some of this work.

Research in fluid meters has continued actively. The studies have been supported by cash contributions reaching $15,000 and by gifts of equipment of equal value. In 1938, study and discussion continued on the flow nozzle coefficient. Work on fluid meters is of especial interest and importance to the petroleum industry, and has received support from the oil companies. Demand for the "Report on Orifice Coefficients" required the printing of a second edition during the year.

Investigation of the supersaturation of steam has been continued at Stevens Institute of Technology and of the oxidation of metals by high temperature steam at Purdue. About 20 alloy steels are included in the Purdue test program which has been broadened to cover a study of the effect of stress on intercrystalline corrosion. Equipment for this research includes a critical pressure steam boiler.

It is expected that the *Manual on the Cutting of Metals,* which has been edited by the A.S.M.E. Research Committee, will be published in 1939. In this volume will be brought together much of the available knowledge on the shaping of metals by machinery.

Fatigue tests on full size helical springs have been continued at Wright Field and the results presented in progress reports. Work at present is devoted to a study of the effect of surface finish. It is planned to commence an investigation of elliptical springs at an early date.

The effect of temperature on the properties of metals has been studied under various subdivisions, such as tubular members at high temperatures, torsion creep tests in comparison with tension creep tests, relaxation tests, etc. Publication of results must await completion of the tests.

As a result of research on intercrystalline cracking of boiler tubes it has been determined that this failure is caused solely by chemical reaction. It does not occur when untreated distilled feedwater is used, nor can it be produced by stress alone. Some of this work has been carried on at the University of Illinois.

At the University of Minnesota interesting research has been continued on the problem of a fluid velocity-measuring device employing sound waves or pulses. Satisfactory apparatus and test methods have been developed. Much work remains to be done, but a successful method of applying acoustic means to the measurement of fluid velocity is in sight.

STANDARDIZATION

Within the year standards in the field of mechanical engineering were completed and presented to the American Standards Association as follows: revision for steel pipe flanges and flanged fittings, revision for cast-iron pipe flanges and flanged fittings, face-to-face dimensions of ferrous flanged and welding end valves, terminology and definitions for single-point cutting tools, time series charts, and twist drills.

The revision for steel flanges and fittings extends specifications from the 1,500-lb. limit of the 1932 revision to a limit of 2,500 lb. Higher pressures in current steam boiler pressure had outrun the accepted standards.

Standards now before the various sponsoring bodies include gearing nomenclature, roller chains and sprockets, and involute splines. Other standards in the process of review deal with pipe threads, malleable-iron screwed fittings, wrench-head bolts and nuts, round unslotted head bolts, wrought-iron and wrought steel pipe, pressure and vacuum gages, taps, reamers, engineering and scientific graphs, graphical symbols, etc.

The extent and variety of this partial list indicate the continuous growth and broad scope of standardization in mechanical engineering. This work is carried on by 289 subcommittees and groups including 1,019 members, all under the guidance of the standing Committee on Standardization of the A.S.M.E.

MATERIALS

The development and improvement of techniques for powder metallurgy continued during 1938. This comparatively recent process consists in molding metals in powder form under high pressure and at a temperature of incipient fusing: *i.e.* at about two-thirds the temperature of the melting point. An electric furnace with a reducing atmosphere is used. The pressures range from 15 to 50 tons per square inch. Products formed include bearings, bushings, electrical parts, metal-cutting tools, etc. Materials for this process are the highly refractory metals which can be worked only as powders and some iron and copper alloys.

Further progress was made during the year in the manufacture of heat treated alloyed cast iron. Nickel, copper, vanadium, chromium and many other materials are used singly or in combination as alloys with the iron. Tensile strength has been increased from the 20-24000 psi range to 60-70000 and even 80000 psi. Most alloys promote uniformity in structure, build up the combined carbon content of the iron, and refine the graphite structure. Of course, this increase in tensile strength has opened a wide range of new uses for iron castings, replacing steel. For further discussion of the advantages of the alloy castings, reference is made to THE AMERICAN YEAR BOOK, 1937, p. 669.

One of the new and less familiar types of materials is the beryllium-copper group. This alloy is extremely resistant to corrosion and can be produced with a strength equivalent to high grade steel. With the addition or nickel, the strength can be raised to 200,000 pounds per square inch (psi).

Marked progress has been made in recent months in the manufacture of malleable cast iron. Formerly the annealing period was from 60 to 70 hours. This has been shortened in at least one plant to a 6-hour cycle. This remarkable reduction has been brought about by the use of iron with higher silicon content, by the elimination of the heavy pots in which the castings were packed for annealing, and by the use of a gas-fired, pusher-type furnace with five zones of heat. A temperature of 1,700 deg. F. is reached in about three hours after the introduction of the castings into the furnace. The castings are held at this temperature for two and a half hours and then cooled to 1,475 deg. by air blasts while still in the furnace. The resulting metal has a tensile strength of 55-60000 psi. and an elongation of 15–20 per cent.

Synthetic rubber was manufactured on a commercial scale during the year, one plant having a capacity of 2,000,000 lb. annually. Cost figures are not available for comparison with the natural product.

SURFACE HARDENING

A rather specialized process for hardening the surface of any ferrous metal which can be hardened by heating and quenching has been introduced in recent years and deserves a paragraph in this annual report. It is frequently desirable to have a hard surface on a metal part for the purpose of withstanding wear while retaining toughness and strength without brittleness in the interior. Case hardening has been a standard method of accomplishing this result. The new practice uses an oxyacetylene flame for local surface heating, with rapid quenching before the heat has penetrated. If the heating and cooling are sufficiently quick, a hardness depth of as little as one-sixteenth inch can be secured. On the other hand, a depth of one-quarter inch can be produced if desired, with a hardness at least equal to that secured in a furnace. The conduction of heat to the interior of the metal assists quenching; in fact, self-quenching may be possible occasionally. In this process care must be taken with high carbon and tool steels to prevent checking. For quenching, water, soap-water or a soluble cutting oil in water is used. Quenching stresses can be relieved by a low temperature draw, for example, at 400 deg. F. in an oil bath or oven. Self-drawing has been found satisfactory in some cases. This method is particularly useful for large parts, as the equipment is portable, may be brought to the work, and the hardening treatment can be applied at points difficult to reach by other systems.

STEAM POWER

The year has seen boiler steam pressure carried up to 2,500 pounds on a commercial installation, though this does not represent an increase in temperature. The steady rise in working steam pressures and the introduction of new materials in boiler construction necessitate continual revision of the Boiler Code by the A.S.M.E. committee. In acceptance of this responsibility the entire committee met nine times during the year, and there were additional sessions of the executive committee. Several revisions and interpretations of the Code were published.

No particularly novel installations of steam equipment were reported during 1938. Under the section Transportation in this review will be found a discussion of the new mechanical drive turbine locomotives which represent the most interesting innovations in the steam power field.

GAS POWER

Progress in Diesel engine design has been accelerated recently by laboratory studies of the combustion processes. For the first time in history the manufacture of Diesel engines on a mass-production basis has been commenced. At the Detroit plant of the General Motors Corporation a scheduled output of 50 engines per 8-hour day was established. These engines are of the two-cycle type in 1, 3, 4 and 6 cylinders and are designed to operate at 1,800 r.p.m. The power range is from 22 to 160 hp., and they are intended for stationary, marine, truck or tractor service. No Diesel driven passenger automobile has yet been offered to the public.

Interest in the possibilities of producer gas as a source of power seems to be reviving, but there have been no specific news items to chronicle.

TRANSPORTATION

Gear driven turbine locomotives have been in use abroad, notably in Sweden, since 1932 but no unit has ever appeared on an American railway. The experimental work in this country has led to the adoption of Diesel-electric or turbo-electric rather than mechanical drive locomotives. Possibly our heavy trains which require a powerful starting tractive effort have made the mechanical drive seem impracticable. Performance in Europe, however, has shown that the tractive effort is not too low at starting and that there is an important gain in transmission efficiency. An efficiency of 90 per cent has been reached for mechanical as compared with 75 per cent for electrical transmission. A further deterrent handicapping the turbo-mechanical locomotive in this country is the financial condition of the railroads which limits their buying power, especially of experimental equipment.

It can be reported, however, that a locomotive of this type has been designed for American use and the specifications have been published. It is possible that 1939 will see its construction. A major inducement for its introduction is the record made abroad of 25 per cent fuel savings as compared with the usual 3-cylinder locomotives in similar service. Maintenance costs also are much lower. It should be pointed out that this gain in economy was secured in non-condensing operation; the proposed American design calls for a condenser which should further increase its economy.

Specifications for a typical or standard type mechanical drive turbine locomotive have been accepted as follows: horse-power, 4000; steam pressure, 1200 psi, and steam temperature, 850 deg. F., oil fired furnace with a boiler capacity of 35,000 lb. of steam per hour for the main turbine. A condenser of the thin vane type will be located on top of the cab with air circulation forced by a turbine-driven fan.

The main turbine will consist of two 24-inch Curtis wheels and 18 reaction stages and will be designed to run at 8000 r.p.m. for a locomotive speed of 120 miles per hour. Reduction gears will step the speed down to 2160 r.p.m. on the so-called output shafts, and planetary trans-missions through hydraulic couplings will carry the power to the driving wheels. The starting tractive force will be 64,000 lb. which is much lower than that produced by the turbo-electric locomotive but 15 per cent above that of the conventional cylinder engine of corresponding capacity. At 80 miles per hour the turbo-mechanical locomotive has a higher tractive force than turbo-electric, Diesel-electric or standard cylinder type for similar service. The new locomotive will have a total weight of 500,000 pounds of which 280,000 pounds will be on the drivers. Estimated costs for the four types of locomotives in sizes adapted for the same service are as follows: turbo-electric, $650,000; Diesel-electric, $625,000; turbo-mechanical, $360,000; conventional multiple cylinder, $150,000.

Steam motor, like turbo-mechanical, locomotives have not been built in this country. The Baltimore and Ohio Railroad has one designed, however, which will have 16 cylinders, four for each driving axle. Cylinder dimensions will be 9½ x 7 inches and highly superheated steam at 300 lb. pressure will be used.

Nothing radical in automobile design was introduced with the 1939 models. It had been rumored that some venturesome company would present a rear-engined car but that novelty is still to come. Emphasis has been placed definitely on safety, comfort and style in the development of the year. Roomier bodies, steering column gear shifts, better spring suspension and air conditioning of interiors are common improvements.

PUMPING STATION

A notable installation of 1938 was the pumping station of the Colorado River Aqueduct. This aqueduct will carry 1,600 cubic feet per second or 720,000 gallons of water per minute for 300 miles to the city of Los Angeles. To cross the intervening mountains the water must be lifted a total of 1,634 feet, which requires 330,000 hp., making this the largest pumping station in the world. Five separate plants are provided with lifts of from 146 to 444 feet each. Centrifugal pumps electrically driven are used and for the maximum lift the motors are of 12,500 hp. each. The plants will cost $12,000,000, and in spite of the use of power from Boulder Dam at a very favorable rate the cost of electrical energy per year is estimated at $4,000,000. Experimental work, before the letting of contracts, was done in the laboratories of the California Institute of Technology, and prospective bidders submitted models for testing. As a result of these preliminary tests it is considered that more than $1,500,000 was saved in the original cost and that the annual power charges will be $120,000 less than if the research work had not been done.

MANAGEMENT

New material was presented during the year on two problems connected with the most important factor in employer-employee relationships—wages. A problem is that of job evaluation, a matter which has puzzled conscientious executives for years. The question may be briefly stated thus: if the rate of pay for common labor, the lowest rate in a plant, is x cents per hour, how many times x should the pay be for any given type of work of superior quality, say tool making. Two methods of attack on this problem have been proposed, methods similar in principle but different in detail. One is known as the point system and the other as the grading or ranking system. In each method a particular task is analyzed as to its requirements of skill (physical and mental), training, experience, education, hazard, responsibility, effort, conditions of work, etc. Under the point system each of these requirements is weighted and marked, the sum then representing the "value" of the job. This "value" can then be compared with a value for a common labor task and relative rates of pay can be determined.

Under the ranking system the requirements are scored and the jobs arranged in order from lowest to highest. Limiting rates of compensation are fixed and intermediate wages are assigned. Both systems, it will be noted, require arbitrary assignments of scores for the several requirements of a job. In some plants attempts have been made to have an employees' committee reach an agreement with the personnel department as to these job requirement scores, but it is a difficult assignment. An honest effort to evaluate jobs according to some rational plan is a great advance, however, beyond the arbitrary and often prejudiced opinion of a foreman or the chance influence of labor supply.

The second problem which is related to wages is that of recognizing both occupational requirements and personal characteristics in fixing the rate of compensation. The point and ranking systems described above attempt to evaluate a job. Many managers believe that the man filling the job should be evaluated also.

A concrete plan for accomplishing this result has been introduced recently. Every wage rate is based on the sum of the occupational and personal factors. A job is evaluated on a group of items such as skill required, physical effort needed and responsibility assumed and a rate in cents per hour is fixed. This rate is planned to equal about two-thirds of the expected compensation for the work involved. The other third is the personal factor and is determined by marking the workman on his productivity, accuracy, dependability, promptness, cooperation, etc. The plan permits, in fact produces, different wages for different men performing the same tasks. It will probably meet opposition in strongly organized plants, for union policy has almost invariably demanded equal treatment for members in the same occupations.

Regardless of the success of any single plan, however, it is important as forming part of a general movement towards a logical solution of the perplexing wage problem and indicative of a growing social consciousness among engineers.

ELECTRICAL ENGINEERING

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INTRODUCTION

The field of electrical engineering comprises the generation of electric power; the manufacture of electrical apparatus which implies much fundamental research leading to the development of new types of apparatus; and the use of electricity in industrial plants and the communications industry.

Energy Output.—The total electrical energy generated in the United States in 1937 was 120,966,000,000 kilowatt hours according to the Federal Power Commission, or 9% more than had ever before been generated in a single year. However, reports up to the middle of November indicate the electrical energy production in 1938 will drop nearly to the 1936 level, or to approximately 8% less than in 1937. The chief reason for this decline is, of course, the general curtailment of business activity. Indeed, so sensitive is the electrical energy output to changes in business activity that it may be used as an index of business conditions. Corrections should be made for number of hours of daylight, and mean temperature, since hot days mean greater use of electricity for refrigeration and air conditioning, and dark days mean greater use for lighting. When these things have been accounted for the daily output of electricity is closely proportional to industrial activity of the nation.

New Orders Booked.—New orders booked in 1937 for electrical goods showed an increase of 21.8% over 1936 according to reports of 78 manufacturers published by the Department of Commerce. In the first nine months of 1938 orders booked for electrical goods fell off considerably. Reports of the two largest manufacturers showed a decrease of 39% in this period. According to reports of the National Electrical and Manufacturers Association, orders for electric motors and generators and transmission and distribution equipment up to the middle of September, 1938 were almost equal to those of 1936 and about 20% under 1937. According to a world-wide summary of the latest available figures published by the Electrical Division, Bureau of Foreign and Domestic Commerce, there are in the world some 80.000.000 users of electricity. Of these nearly 30% are in the United States.

Hurricane Damage.—The hurricane which swept the New England States Sept. 21, 1938 was especially destructive to the lines and equipment of the telephone and electric light companies. Frank D. Comerford, chairman of the New England Power Association and president of the Boston Edison Company, stated that the estimated damage by the storm to the New England Power Association was approximately $3,500,000. These figures include loss of revenue pending restoration of service to customers cut off by the disaster. Sixty-six per cent of the people served by the Boston Edison Company were without service immediately after the hurricane. A week later only 6% of the customers were still without power. The repair work was speeded tremendously by the cooperation of power companies in unaffected areas, lending their men and equipment to those who needed them. Crews of linemen from as far away as Ohio and New Jersey were rushed into New England where they put in long hours repairing the damage.

GENERATION

Equipment Capacity.—The capacity of electrical generating equipment scheduled for completion in the United States during 1938 was 1,817,860 kilowatts or nearly twice as much as was installed during 1937. Eighty-five per cent of the new equipment was steam driven generators; 12.5% was water power driven; and 2.5% was driven by internal combustion engines. One outstanding installation was the second of two "topping" turbines put into operation at Waterside Station of the Consolidated Edison Company in New York City. This unit, which was put into operation in June, 1938, is rated at 53,000 kilowatts, and takes steam at 1,400 pounds pressure and 900 degrees centigrade. The steam exhausted from this turbine at 200 pounds pressure is used to drive the older equipment in the station. Like most of the newer turbines, this machine runs at 3,600 revolutions per minute and is cooled by hydrogen gas.

Hydrogen Cooled Generator.—The first hydrogen cooled generator, that at Millers Ford Station of the Dayton Power and Light Company, completed its first full year of successful operation in 1938. Its record has established the practicability of this method of cooling and has confirmed its economy.

The overall economy of steam driven generating plants continued to fall, but more slowly since it is approaching an apparently irreducible minimum. The average amount of coal used to generate a kilowatt-hour of electrical energy in all plants in the United States was 1.43 pounds as reported by the *Electrical World*. The Port Washington Station of the Milwaukee Electric Railway Company established a new world's record for economy when it maintained a yearly average of 10,835 B.T.U., that is, actual units of heat energy per kilowatt-hour of electrical energy generated. A pound of good coal contains about 15,500 B.T.U., so this corresponds to about 0.7 pounds of coal per kilowatt-hour. There are several reasons why the average coal consumption is not approaching this minimum more rapidly. One of these is that the cost of coal is a rather small percentage of the total cost of generating electricity from steam. According to an editorial in the *Electrical World*, Jan. 15, 1938: "When coal cost 2 mills per pound, the saving of another one-hundredth of a pound per kilowatt-hour does not perform wonders in reducing the cost of producing a kilowatt-hour if the companies have to generate 500 of them before they save one cent in fuel. Or, putting it in terms of industry expenditures for coal (some $180,000,000), it may be quite profitless to save $1,500,000 on this item if the national capital outlay to assure it may have to be $260,000,000. This astounding figure is indicated by the data in *Electrical World's* Steam Station Cost Survey which showed that 0.7 per cent gain in thermal efficiency was attained in representative plants by investing about $8 more per kilowatt of capacity." In other words, while better thermal efficiency is technically possible, its cost is still so great that we can not expect more general improvement at present.

Design of Steam Plants.—One tendency in the design of steam plants in the past year was toward greater use of steam-driven auxiliaries, exactly opposite to the trend several years ago. One of the reasons for this change is that the size of individual boilers is increasing, so that the fans and pumps used with them must be larger. Manufacturers are able to build more efficient turbines to drive these larger units. Another reason is that the speed of turbines is more easily variable over wide ranges than the speed of electric motors of comparable cost.

Hydro-electric Plants.—The construction of water power equipment has continued mostly in connection with large Government projects. The contract has been let for the initial installation of three generators in the power house at the Grand Coulee Dam. There will eventually be nine generators each having a capacity of 108,000 kilovolt-amperes. Except for the large generators at Boulder Dam, those to be installed at Grand Coulee will have a capacity of approximately 2½ times that of any other in the world. Another interesting installation was that at Upper Salmon Falls on the Snake River in Idaho. The dam and power house with generators of 18,000 kilowatts capacity was completed in a single year. The use of prefabricated concrete forms helped speed up the construction of the dam.

TRANSMISSION AND DISTRIBUTION

Petersen Coils.—The most interesting new trend in transmission practice in this country is the introduction of the Petersen coil method of grounding the neutral of transmission system. The Petersen coil is placed in the neutral of transformer banks and its value is chosen so that in combination with the inherent capacitance to ground of the transmission system it forms an anti-resonant circuit. This means that, if a short circuit occurs from one of the wires of the transmission system to ground, very little current flows. On this account the short circuit often stops of its own accord, that is "clears itself," without the necessity of circuit breaker action and possible interruption of service to users. These coils have been used successfully in England and on the Continent of Europe for many years, and it seems likely that we will see much wider use of them in this country. About ten were installed in the United States in 1938.

Self-contained Substations. — Several installations of self-contained transformer substations have been made by one eastern public utility company. These substations are completely assembled in the factory and need only be unloaded and connected into the circuit. This saves a large item of construction cost and also makes it possible to move the substation to a new location with the minimum of expense, if changing load conditions should demand it. Another company has gone even farther with the idea of portable equipment, by installing substations on flat cars and on heavy trailers, so that they may be moved about to take care of emergency conditions on seasonal variations in load center.

Distribution Circuits.—Recent studies have shown that, at the present costs of transformers and line construction, it is more economical to use smaller wires for low voltage circuits and shorten the length of low voltage circuits by using more transformers and putting them closer to the load. Another innovation in low voltage networks is the use of pilot wire relaying systems similar to those that have been developed for high voltage circuits. This makes possible more reliable operation of network protectors, and makes it possible to use simpler relays. Another advantage from the point of view of maintenance is the fact that service men can use the pilot wire for telephone communication with the load dispatcher or with other service men, which frequently saves much time and trouble in locating the cause of an interruption.

Several new techniques in construction of distribution circuits came into use in the year. One is the use of compression type connectors for joining rubber covered cables in manholes. This avoids the use of solder and is a great time saver. A method has been developed for brazing substation bus bars in the field by means of a silver alloy. This gives better joints and takes much less time than the older method of drilling and bolting. In the construction of pole lines it has been the usual practice to erect the bare poles and then have linemen climb the poles to install the cross-arms and insulator assemblies. In the construction of many recent lines it has been found possible to make the whole pole top assembly while the pole is on the ground and then erect it. This means that highly paid linemen need be used only for stringing and adjusting the tension in the wires.

Reclosing Fuses.—In order to provide a means of quickly restoring service after fuses are blown by short circuits of short duration, such as those caused by wires striking together in a high wind, many reclosing fuses are used. These devices install a new fuse in the circuit in a specified time, about one second, after the first fuse blows out. One manufacturer has developed a new type of door for their old pole top fuse holder which adds the reclosing feature. The new doors may be installed as easily as a new fuse could be installed in the old holder. The operation of one type of high voltage fuse has been improved by arranging so that the arc which forms when the fuse blows is forced into a Deion grid or stack of arc suppressing gaps.

High Voltage Cables.—Much work has been done in the past few years on the development of cables for high voltages, that is, from 66,000 volts up. One new type for voltages over 132,000 was perfected in England in 1938. It is filled with inert gas under pressure. Since gas is compressible, if the initial pressure is high enough, a vacuum can not occur even at the lowest temperature. This is a decided advantage because ionization of gases at points of low pressure is the cause of many failures of the more familiar oil-filled cables. It is also claimed that the cable has a lower charging current and less dielectric loss than cables using impregnated paper.

A three-conductor oil-filled cable for 66,000 volts was installed in Connecticut in 1938. This is the first time a three-conductor cable has ever been used for such a high voltage.

LOAD BUILDING

National Adequate Wiring Program.—The National Electric Manufacturers Association, seconded by the power companies and dealers in electrical appliances, have launched a campaign known as the National Adequate Wiring Program. The idea is that use of additional electrical apparatus, both in homes and industrial plants, is often delayed or prevented because the wiring system is not able to handle the additional load. It is also true that electrical losses in buildings which have antiquated or overloaded wiring often run high. The program, it is hoped, will establish new standards for safety and convenience of wiring and also create a market for more electrical devices and incidentally of course for more electrical energy.

Smoothing out of Load Curves.—Because of the increased load on their plants in the early part of 1938, power companies directed most of their efforts to filling up the valleys in their load curves. Water heaters which are automatically turned off during times of peak load were found especially good from this standpoint. It was found possible in one survey to have energy available for the water heaters 18 hours out of 24 with only two three hour-off periods. Water heated during the "on" period is of course available during the "off" periods, so that the users in general are not even aware that their water heaters are not connected all the time.

A new device widely pushed during the summer of 1938 in some parts of the country was the attic ventilating fan. While they are not air-conditioning in any sense of the word, these fans, which keep air circulating through attics, frequently lower the temperature of other rooms in the house several degrees.

An interesting survey by one of the large power companies showed that, while its total load due to home refrigerators was much greater than in 1927, the average refrigerator consumed only 60% of the energy that it did 11 years ago.

Rural Electrification.—Spurred by large amounts of money furnished by the Government through the Rural Electrification Administration, electrification of country districts again made rapid progress in 1938. The appropriation available for allotment by the Rural Electrification for the period from July 1, 1938 to July 1, 1939 was $40,000,000.

ELECTRICAL MACHINERY

Motors and Generators. — The simplest and least expensive alternating current motors—most of the generating systems in this country supply alternating current—run at a substantially constant speed. Electrical engineers have tried many methods of building variable speed alternating current motors. A new type called the "polyspeed motor" was developed commercially in the year which has interesting possibilities. It is capable of speed variations of 50% above and below the normal or synchronous speed of a similar standard type of alternating current motor. The motor requires an external voltage regulator which is furnished with each motor. The present sizes are limited to 7.5 horsepower and below, rated on the basis of top speed.

During 1938 a 12,500 horsepower synchronous motor was built for driving a pump in a western irrigation and water power project. It is the largest ever built for driving a pump, and one of the largest ever built for any purpose. Six motors of this kind are being built at present, and the final project calls for ten, five each at two pumping stations. They will operate on 6900 volts 3-phase 60 cycles.

Transformers.—The most interesting development during 1938 was the wound core transformer. The conventional way to build a transformer is to build up the iron cores out of a large number of thin sheets or laminations which must be assembled by hand at considerable expense. The laminations must first be cut to size in a punch press where there is a considerable waste of material. The new method is to wind the coils first and then insert the cores afterwards by winding them out of a single long ribbon of cold rolled steel. The winding is done automatically by a special machine developed for the purpose. The steel ribbons are used just as they come from the mill with little or no waste. In addition to the economy of material, the new type transformers are smaller and lighter and in some respects have better electrical characteristics than the usual type. Distribution transformers of the new type are now available in sizes up to 5 kilovolt-amperes.

Circuit Breakers. — The general trend in circuit breakers during 1938 is toward devices using much less oil than was formerly used and in some cases no oil at all. One outstanding example of this is a line of heavy duty air circuit breakers, rated from 2,000 to 10,000 amperes for voltages up to 750 volts, developed by a large manufacturer. They are so arranged that the magnetic forces developed at high currents tend to force the stationary contacts outward against the moving contact, thereby maintaining contact pressure until the breaker actually starts to open. Another manufacturer has developed and built a number of air circuit breakers for operation on 2,300 volts carrying 1,200 amperes. They operate on the magnetic blowout principle and on actual test interrupted as much as 23,000 amperes at 2,500 volts.

Another tendency noticeable in 1938 was the wider use of factory assembled switching structures. These pieces of apparatus combine circuit breakers, bus bars, and metering and relaying equipment designed and built as a unit. They have found increasing use in steel mills and other industrial plants using large amounts of power.

Multibreak interrupters similar to those developed for the large impulse type circuit breakers at Boulder Dam are now available for installation in oil circuit breakers which originally had plain or explosion chamber type contacts. The new interrupters reduce the interrupting time of the old breakers to from three to eight cycles of 60-cycle alternating current.

A new type of disconnecting switch involving two kinds of motion was developed in the year. The first motion exerts a large force through a small displacement until the contacts are disengaged. This is followed by a rapid motion for which little force is required to move the blade after the contacts have parted. An ingenious mechanical arrangement makes all this happen during a single smooth stroke of the operating handle.

A new type of high voltage power fuse was placed on the market in the spring of 1938. These fuses are available for use on voltages from 2,500 to 23,000 volts with current ratings from 70 to 250 amperes. The fuse element consists of one or more silver wires wound on a supporting core of high temperature ceramic material and imbedded in an interrupting medium of granular quartz. The fuse is said to limit the short circuit current to a value substantially below that usually encountered in short circuit interruptions.

A snap switch for home use which makes no snap has been placed on the market. The circuit is broken by tilting a glass tube which contains a drop of mercury. When the mercury rolls to the other end of the tube it breaks the electrical connection between two electrodes sealed into the glass tube. Such switches have long been used industrially, and their use in a silent light switch should find many welcome applications.

Electric Welding.—When electric welding was first used it was merely as a substitute for riveting, bolting, threaded joints in pipes or other well known methods of joining metals. Now, however, whole new techniques in mechanical design and construction have been based on electric welding. The oil refining industry has benefited in particular. Oil wells formerly not worth working are now paying dividends because welded pipe lines have solved the problem of cheap transportation of the oil. Electric welds may be made oil-tight, gas-tight, and as strong as the parent metal. Parts may often be joined so accurately that subsequent machining is not necessary. According to reports of the National Electric Manufacturers Association nearly five times as many pounds of welding electrodes were used in 1938 as in 1932.

During 1938 welding was used in the fabrication of casings for high pressure steam turbines which had formerly always been cast in one piece. A new method of testing welds in pipes for steam at 1,200 pounds pressure and above was developed during the year. The device can be clamped on to the joint in its final location in the power house. Twelve exposures at angles 30° apart are taken around the circumference of the joint. The area of each picture is large enough so that adjacent pictures overlap and the complete weld may be studied.

A device for instruction of welders in the art of holding an arc of correct length during the process of making a weld was placed on the market in 1938. The device actually works on the voltage drop across the arc. If the drop is high, signifying too long an arc, the upper of a pair of lights inside the welder's helmet is lit. If the arc is too short, the lower light is lit. When both lights are out, the welder knows his arc is within the proper limits.

Electric Furnaces.—Among the recent developments in the field of precision melting equipment in this country is a coreless induction furnace of 44 lbs. capacity that melts and pours its charge in a vacuum of one millimeter of mercury. High frequency current for the furnace is supplied by a 100-kilowatt, 2,000-cycle generator. An airtight vessel through which the electrical leads are brought by special bushings incloses the heating coil, furnace crucible and ingot mold, and is provided with water-cooled sides and top. The vessel is evacuated and a vacuum of one millimeter of mercury is maintained throughout the melting and pouring cycle by a vacuum pump rated at 26 cu. ft. of free air per minute.

Another interesting furnace built in the year is one used for making creep tests on samples of steel and high temperatures. It has been found that steel members, when submitted to the high temperatures present in modern boilers and turbines, tend to flow like a very hard wax and so may suffer a permanent distortion in shape. To test this tendency the furnace provides a means of loading the samples while held at a constant temperature and also a means of making extremely accurate measurements of the distance between two points on the sample.

Lightning Arresters.—A new low voltage lightning arrester (up to 400 volts), consisting of a discharge gap between two solid iron electrodes and a series resistance inclosed in a glass tube filled with a gas at a low pressure, together with a radioactive substance, is reported to show extreme rapidity of action. The radioactive substance is said to be responsible for both rapidity of operation and low dynamic breakdown voltage in the discharge gap.

RELAYING AND CONTROL

Sequence Component Relays.—Relaying and control systems are the brains of electric networks. They sense troubles due to short-circuits or over-loads and automatically take steps to remove the troubles. A new system of relaying developed in the year makes use of certain components of current that have been used for many years as a convenience in the mathematical solution of electric circuits. These components are formed by combining the actual currents in a certain way. It has been found that, by means of filtering networks, it is possible to obtain actual currents proportional to the purely mathematical components. The new relaying system uses a current proportional to the sum of the zero sequence component and a constant times the negative sequence component. A single relay operating on this current will, it is said, serve the same purpose as four similar relays used in the conventional way.

Line Delay Relays.—Some new time delay relays for introducing small accurate time delays determined by means of a resistance-capacitance circuit have recently been perfected. Harmonic restraint relays, which utilize harmonics in the fault current to distinguish between internal faults and through faults on transformers, buses and other pieces of apparatus, found wider application in 1938.

Automatic Control.—The problem of controlling the voltage of ungoverned water-wheel generators, which are subject to large speed variations, has always been a difficult one. In the past year a thyrite resistor in a differential shunt field was used with great success. Thyrite, a material originally developed for use in lightning arresters, has a resistance which decreases as the voltage rises. The decreased resistance causes more current to flow in the differential shunt field, which reduces the voltage again. This arrangement has no moving parts and is very quick acting. Another device which operates automatically is a new type of battery charger using copper oxide rectifier units. The charging rate is automatically tapered off as the battery approaches a fully charged condition.

Follow-up Mechanisms.—In many

applications of control it is desirable to have a mechanism which follows the motion of something else. A-c follow-up mechanisms, or "Selyns" in which the angular rotation of the receiver follows exactly the motion of the sender, have been in use for many years. Recently, direct current selyns have been developed, especially for use in indicating instruments on airplanes, but they will surely find other applications. They are much lighter than the a-c type, the transmitter weighing only five ounces.

ELECTRIC TRANSPORTATION

Streamlining.—Streamlined trains and locomotives continue to occupy the central plane in the field of electric transportation. The New York, New Haven and Hartford Railroad has ordered six new locomotives designed to operate on either a-c or d-c. Each will weigh 433,200 pounds, and will be able to pull 15 80-ton Pullman cars at 93 miles per hour. Pyranol filled transformers are used instead of the usual oil-filled type. The Union Pacific Railroad is experimenting with a 5,000 horsepower steam-electric locomotive.

Auxiliary Power.—The new streamline trains use about 50 kilowatts per car for heat, light, ventilation, and air-conditioning, compared with two to four kw in the conventional passenger cars. On this account the voltage of the distribution system has been raised from 32 volts d-c to 220 volts three-phase a-c, with the possibility that it may go as high as 2,300 volts. The Pennsylvania Railroad began operation of electric locomotives on 83 miles of main line between Philadelphia and Harrisburg Jan. 15, 1938. This was the only major electrification project completed in the year.

TELEPHONY

According to a census taken early in 1937, the results of which were reported late in 1938, there are in the world 37,098,084 telephones. Of these nearly half, or 18,433,400, are in the United States. On a per capita basis there are two telephones for every 100 persons in the world, and 14 telephones to every 100 persons in this country.

The most significant development in the United States during 1938 was the introduction of a new type of subscriber's telephone. This phone is made in both the desk and handset type. There have been many improvements in both mechanical and electrical design. The auxiliary equipment has been reduced in size, so that in the case of the new handset the bell and all other equipment are installed in the base of the phone; the box which formerly was screwed to the wall or desk has been entirely eliminated. By June, 1938 over 1,000,000 of the new type phones had been installed in the United States.

A system of carrier current telephony whereby 12 conversations can be carried on over a single pair of wires was perfected during the year. While carrier systems are not new, this 12-channel system embodies all the best features of preceding systems together with a few new ideas. It is cheaper to build and also to maintain, and may lead to a wider use of carrier current methods in the future. Some of the new features are isolated auxiliary repeaters which require no maintenance, wider frequency bands for the transmission of speech, and a new method of balancing out "cross-talk" or interference from neighboring speech channels.

A new single channel carrier was designed in the year in which the equipment has been much simplified and made portable. It operates on ordinarily available alternating current supplies. This system is intended for emergency or temporary installations.

In telephone circuits it is often found that sound of some frequencies is transmitted with less loss than others. In order to smooth out these irregularities circuits known as equalizers are introduced, but sometimes the nature of the equalizer circuit needed changes with some arbitrary variable such as temperature. Equalizers were built during the year which do just what is necessary, change their characteristic temperature in such a way as to maintain the correct equalization under all conditions.

The transmission of television signals over the coaxial cable between New York and Philadelphia which was tried in 1937 were successful in every respect. Pictures of 240 lines were transmitted which is all that was expected of the present equipment. The word "line" used in this sense is a measure of the definition of the transmitted image; thus, in a picture of 441 lines objects would be more clearly defined than in a picture of 240 lines. Television engineers have adopted as a standard 441 lines per picture. Telephone engineers are now at work on repeaters and other equipment which will easily handle the frequency band of nearly 2,000,000 cycles which will be necessary for wire transmission of 441-line television pictures.

METERS AND INSTRUMENTS

Improved Watt-hour Meters.—During the year as usual there was much improvement in electrical instruments both from the standpoint of accuracy and scope of quantities measured. A new type of watt-hour meter with an unusually wide limit of accuracy has been put on the market. It maintains the same accuracy from one-half an ampere to 60 amperes. A new method has also been developed for testing watt-hour meters which uses a photo-electric revolution counter. This counter enables watt-hour meters to be checked much more rapidly and accurately.

Light Beam Pointers.—Indicating instruments which use light beams for pointers enable readings to be taken quickly because the reduced moment of inertia allows them to reach their final deflection in less time. The light beam is also easier to see and reduces eye strain. Instruments have been developed which can be used at high temperatures and which use springs made of fused quartz. The quartz maintains its elastic properties at temperatures much higher than would be possible with steel or other metals.

Maximum Demand Meter.—A maximum demand meter of the split core type has been developed which can be slipped over the leads of a distribution transformer, such as those located on pole tops, without disturbing the wiring. The scales are designed so that they can be read from the ground through a telescope. New direct current instruments of the permanent magnet type using a concentric magnet of "alnico" steel are one-third lighter than the older type. The concentric design makes auxiliary shielding unnecessary.

Absolute Instruments.—Two new absolute instruments were perfected in 1938. One is a new absolute electrometer for the measurement of very high voltages built by the Bureau of Standards. The voltage is determined from the force exerted on a large plane surface. The other is an oscillating ring electrodynamometer for measuring very high frequency currents. It will measure currents from three to six amperes over a range of frequencies from 5,000,000 to 42,000,000 cycles per second. The performance of the instrument can be calculated with an accuracy of plus or minus one per cent from measurements of length, mass, and time.

Measurement of Non-Electrical Quantities.—Several new electrical instruments for measuring non-electrical quantities were developed in 1938. One is a dew point potentiometer. The gas to be studied is passed through a sealed chamber which contains a stainless steel mirror which can be viewed through a window. Means is provided for lowering of the temperature. When the dew point is reached a spot of condensate will appear in the center of the mirror. The temperature of the mirror is then read by means of a thermocouple.

Two new strain gauges have been developed. One type was used to measure strains in the steel reenforcement of the concrete in Bonneville Dam. The strain detectors contain two steel wires arranged so that a change in strain tightens one wire and loosens the other. The relative resistance of the two wires can be measured by a Wheastone bridge, and from these readings the strain can be computed. Similar gauges only one inch long weighing less than one-quarter of an ounce have also been used for measuring strain in airplane wings during flight.

A gauge was perfected in 1938 for measuring the thickness of metal foils which would be damaged if touched by a measuring device. The foils pass through a three-eighths inch gap in a high frequency magnetic circuit. A variation in foil thickness affects the current flowing in an exciting coil in such a way that the current variations are proportional to variations in foil thickness.

USE OF ELECTRICITY IN THE STEEL INDUSTRY

Steel mills have always been one of the largest of the industrial users of electric power. Many of the recent improvements in the processing of steel may be attributed to the use of electric drives and control. A recent statement by F. L. Coffin, president of the Association of Iron and Steel Engineers, said in part: "While it is true that the mechanical features of mills have been greatly improved, due largely to precision bearings, it must be recognized that after all it has been the pioneering work done in the coordination of motor generator sets, motors, and controls that has made possible many of the advances, noteworthy among which are the rolling of wide, flat strip in high-capacity continuous mills."

One of the most recent uses of electricity is the electrolytic pickling process. Pickling is the name given to various processes for removing dirt, oil, and scale from freshly rolled steel. It has been found that if the strip of freshly rolled steel is made the cathode of an electrolytic cell containing either an acid or alkali electrolyte the time for pickling is greatly reduced and the job is done more effectively.

A method has been devised for continuous gauging of finished strip by electrical means. The gauge can be arranged automatically to segregate sheets cut from that portion of the strip that is off gauge and at the same time signal the operator so that he can take steps to correct the condition. Improvements were made during the year on motors for winders in strip mills. Because of the temperature of the steel and the small space available, the winder has been one of the most difficult parts of a strip mill to motorize.

Many of these new ideas were used in the mill completed by the Republic Steel Corporation in Cleveland March 15, 1938. The mill covers some 21 acres of floor space and cost $15,000,000. It is said to be the widest and most modern mill in the world. Another new mill recently placed in operation is a combination rod and bar mill at the Sparrows Point Plant of the Bethlehem Steel Corporation. Manual manipulation of hot rods, one of the most dangerous and spectacular features of older mills, is entirely eliminated.

Electric strip heaters have been used to keep steel mill rolls hot during idle periods. This avoids much waste of steel which formerly occurred during warming-up periods.

A combination of an induction melting furnace with a die-casting machine has been worked out in a development installation in Detroit. The furnace assures of uniform melt of high quality at the desired temperature and with a minimum of oxidation of the metal. Nominal holding capacities of the new furnace are from 700 to 2,500 lbs. of metal per hour.

ELECTRONICS

Uses.—The use of electron tubes and other electronic devices is influencing daily lives more and more. It would be hard to get along without radios. The gadgets that pull doors open before they can be touched are familiar. But there are many other uses of electronic devices of which the general public knows very little.

Vacuum Tubes Operate Elevators.—In 1938 phanotron tubes, big brothers of those used to supply power to radio sets, were made to take the place of larger more expensive motor generator sets in the operation of elevators. They can carry a momentary current peak of

450 amperes. An electronic furnace has been recently developed in which the charge is heated by actual bombardment with electrons.

Magnetic Fields Measured Electronically.—A special tube was developed which gives the magnetic field at any point in space. The field to be measured causes a visual stream of electrons to follow a certain curve in space. When the tube is properly oriented with respect to the field, this curve is a circle. The diameter of the circle is proportional to the magnitude of the field. A new type of pick-up for phonograph records has been developed which uses a photoelectric cell. The moving element consists of a very light needle to which a small mirror is attached. Light reflected from the mirror falls upon the photoelectric cell which translates the varying light intensity into a varying electric current.

New Television Tube.—A new type of tube to use as the "eye" television transmitting apparatus was recently described by Philo T. Farnsworth. This tube is called the "Image Amplifier Pick-up Tube" and forms a new way of changing light impulses from a moving object into a varying electric current. The light falls upon a perforated grid which has been treated in such a way that the potential distribution over the grid is a function of the intensity of illumination. The back of the grid is scanned by a beam of electrons, and the number which get through the perforations at any instant depends on the potential distribution, and so on the amount of illumination. The electrons are collected by an anode, and of course the anode current is proportional to the number of electrons collected per second. The net result is a tube of about ten times the sensitivity of the conventional iconoscope.

EXISTENCE OF ETHER

The old question as to the existance of an ether was reopened in the past year by some ingenious experiments performed by Dr. Herbert E. Ives of the Bell Telephone Laboratories. By using modern electronic technique Dr. Ives was able to detect a change in the frequency of the energy radiations of hydrogen ions with change in velocity of the ions. The amount of change is in close agreement with that which is predicted by the theory of Lorentz and Lamor. If their theory is true then the famous Michleson Morley experiment does not prove the non-existence of an ether.

ELECTRICITY IN MEDICINE

The use of x-rays both in diagnosis and therapy was one of the first ways in which electricity made itself valuable to the medical profession. During the year a biplanar fluoroscope was perfected which enables doctors to view the interior of the body in three-dimensional perspective. New oil-immersed x-ray tubes are now available for therapeutic work which can be operated with perfect safety at 220,000 and even 400,000 volts.

An electronic cardiotachometer has been developed for giving a continuous indication of the pulse rate. Very light electrodes are provided which may be connected to almost any part of the body. The device then indicates directly on a meter the pulse rate in beats per minute. It may be used continuously during anesthesia or during an operation.

ILLUMINATION

The 60-watt lamp is the most popular size for general lighting purposes used in this country. This particular size is now 50 per cent more efficient and 67 per cent cheaper than it was 15 years ago. Much the same reduction has taken place in the price of other sizes. The average home in 1938 used nearly three times the amount of lighting that was used in 1922 according to a report presented to the annual convention of the Illuminating Engineering Society by Mariquita Dygert.

A new 400-watt fluorescent lamp was developed in the year which produces 38 lumens per watt, one of the most efficient produced so far. Fluorescent lamps have a longer life and radiate less heat than incandescent lamps; have little flicker except in the blue, and decline in lumens at low temperatures. Sodium vapor lamps, because of their brilliant and distinctive yellow color have been found to make excellent night warning signals at railroad crossings. A rug manufacturing company has found that matching of yarns can be done more accurately under the light of carbon dioxide lamps. Men experienced in the matching of yarns say that the carbon dioxide light is better than average north light though not as good as the best north light. The lamps used most operate in a very narrow pressure range. In order to maintain this pressure an electron tube is sealed to the lamp and pressure is determined by the behavior of the electron tube. When the pressure becomes low the tube automatically releases more gas within the lamp in order to maintain the pressure.

Large size incandescent lamps for projection and airport beacon use are now furnished with "bi-post" bases instead of the old screw bases. These bases enable the lamps to be more accurately located in the projectors, and so focus more effectively.

RADIO *

By Lewis M. Clement

RCA Manufacturing Company, Inc.

RECEIVERS

Electric and Automatic Tuning.—Outstanding among the features of receivers of 1938 was the almost universal use of push button tuning. Introduced in 1937 in the more expensive models, this feature was extended to the very lowest price brackets in the 1938-39 lines. The fundamental methods of accomplishing automatic tuning as introduced in 1937 were continued in improved form. These methods are: (1) mechanical push button tuning in which the movement of the buttons drives the tuning control through contact with pre-set cams; (2) electric push button tuning in which the tuning control is driven to pre-selected settings by an electric motor; and (3) selection of pre-tuned circuits by a push button selector switch. Increased mechanical precision and electrical stability in automatic tuning systems has reduced the use of AFC circuits to a point where they become a refinement employed only on highest priced sets and are no longer a necessity on the lower priced models.

Wireless Remote Control.—A feature which attracted public interest was the introduction of wireless systems of remote control. Two systems of accomplishing wireless remote control have been used. The first employs impulses radiated from the remote control unit and received by an auxiliary receiver in the controlled radio to operate a step-relay type station selector switch. The second method employs a small receiver tuner unit at the remote point which re-radiates its selected signal on a single fixed channel to the input of the controlled receiver. The commercialization of wireless remote control was given some encouragement during the year through liberalization of the Federal Communications Commission regulations regarding the use of low power radiation of radio signals.

Cabinet, Dial and Other Special Features.—Console cabinets showed a decided trend toward lower and broader proportions, reflecting the modern concept of furniture styling. "Period" styling of consoles was also

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used on many larger models. The use of moulded plastic cabinets in a variety of colors and materials was very popular in the lowest price table model class. Large and attractive dials, predominantly with horizontal dial scales, were again featured. Spread bands for short waves continued to be popular in the higher priced brackets. Higher fidelity and improved frequency response were featured through the use of improved speakers, inverse feedback and other special audio systems.

Automobile Receivers.—An important development in automobile receivers has been the extensive use of push-button tuning, with both mechanical push button tuning and pre-tuned circuit push button selection being featured. The trend toward custom installations in new automobiles continued to increase and was accelerated by the requirements for mounting push-button controls conveniently on the instrument panels of the cars.

Phonograph Combinations and Records.—Increased public interest in phonograph records resulted in a decided increase in the number of radio-phonograph combination models marketed during the year. The foremost feature on the combination models was the widespread use of automatic record-changing mechanisms. The interest in small record-playing attachments for use in conjunction with radio receivers also showed large increases.

SALES OF RADIO AND ALLIED EQUIPMENT

(Radio Retailing)

Product	1936	1937
Radio Receivers		
Units Sold.......	8,829,090	8,300,000
Retail Value.....	$480,897,744	$420,019,163
Types on a Basis of Percentage of Total Units		
Table Models....	44	47
Console Models..	39	35
Auto Radios.....	17	18
Tubes		
Total Unit Sales.	105,600,000	103,564,000
Retail Value.....	$71,800,000	$70,100,000

New Developments in Receiver Tubes.—Tube development this year featured the introduction of an entire new line of 1.4 volt low drain battery tubes developed primarily for operation from dry batteries. This development made possible the introduction of small, completely self contained portable battery sets, operating from built-in loop antennas.

TRANSMITTERS

Broadcast Transmitters. — Development along the lines of improved fidelity and lower operating costs continued during 1938. A number of new high efficiency modulation systems was disclosed. There were several installations of 50 kilowatt transmitters using the Doherty principle. Some of the transmitters for broadcast as well as for other services included modulation limiters within the transmitter proper. A codification of "good engineering practice" was made by the Federal Communications Commission.

Short Wave Transmitters. — Increased interest in international broadcasting has led to the development and installation of high power transmitters for this purpose.

Frequency Modulation. — Studies of this system of modulation were continued during the year. Several stations for high fidelity broadcasting on ultra high frequencies with wide-band frequency modulation were erected.

Antennas. — Guyed masts and towers of uniform cross-section for broadcast transmission found greater usage in 1938. More directional antennas to provide better coverage and reduce interference with other stations were erected.

Crystal Development. — Harmonic crystals have been increasingly used for the control of high frequency and ultra high frequency equipments. These crystals have thickness dimensions associated with conventional crystals of one-third the frequency and so are relatively rugged. Low temperature coefficient crystals were further improved in 1938. For example, crystals operating from 200 to 400 kilocycles were commercially produced with a frequency tolerance of 0.005% for a temperature variation of —10 degrees C. and +60 degrees C. Hermetically sealed gas-filled holders were developed to prevent condensation of moisture on crystals. These holders are filled with an inert gas to prevent oxidation.

Transmitting Tube Developments.—The development of beam tubes was continued in 1938. These tubes offer advantages of high power gain and do not require neutralization. These tubes are found particularly advantageous in ultra-high frequency transmitters because they are very effective frequency multipliers. The development of tubes for ultra-high frequencies continued. A double beam tube to deliver 20 watts at 200 megacycles was made commercially available. The development of ultra-high frequency tubes was furthered by a more complete understanding of circuit considerations.

Television Transmitter Development.—Substantial progress was made during 1938 in extending the frequency response of television transmitters to meet the requirements of the 441 line standard. A television relay transmitter was constructed and tested. This equipment is mounted on two "telemobile" truck units for relaying outside pickups. Platforms on the roof of one truck hold the pickup camera and microphones. A collapsible antenna for radiating the 177 megacycle signals is mounted on the other truck. Consideration was given in 1938 to methods of single sideband transmission in order to obtain greater definition with the band width allotted by the Federal Communications Commission.

BROADCASTING STATIONS

(As of July 1, 1938)

Number of clear channel stations	107
(Number of 500 KW — 1)	
(Number of 50 KW — 32)	
(Number less than 50 KW — 74)	
Number of regional channel stations	307
Number of local channel stations	325
Total Stations	739

BROADCAST SPEECH INPUT EQUIPMENT

In 1938, studio equipment for broadcast stations improved steadily. Through the use of new materials, microphones have been made smaller and more sensitive. A universal microphone was introduced which contains a three-way switch permitting its use as a non-directional, bi-directional, or uni-directional microphone. Interest in transcription recording and reproducing increased. New wider-range pickups, wider-range cutters, and automatic equalizers have been introduced. New record materials and many advances in recording technique have been made. Amplifiers have become smaller physically and assembled in new forms. Consolettes and small desks have become increasingly popular while rack assemblies appear to be losing favor. A new volume indicator meter with larger scale and critically damped movement has been standardized by leading broadcasters, manufacturers, operating chains and telephone companies. A new volume unit (0.001 watt — 600 ohms) has also been standardized by some groups.

RADIO TEST EQUIPMENT

In 1938, in test equipment as in radio receivers the use of push-buttons for semi-automatic operation found several applications. Many tube testers, at least one test oscillator, and some other types of equipment employing this principle were introduced. Several items of television test equipment were produced, some of them being applicable for other studies. A radio-frequency phase monitor employing a cathode-ray tube was made available for use with directive antenna systems. A high-gain tuned r–f voltmeter for service application was also introduced.

POLICE RADIO

Major developments have been in the Ultra High Frequency field (30–40 megacycles) and in the increased use of two-way or "talk-back". Twenty-one additional frequencies in this band have been made available by the Federal Communications Commission and the service has been changed from experimental to commercial. Technical progress has been toward improved performance, simplified design and lower costs. On U.H.F. station transmitters the trend is toward higher powers. On U.H.F. mobile transmitters, output power ranges from five to 17 watts; primary power is obtained from the car battery with either vibrators or dynamotors to supply high voltage. All transmitters are crystal controlled.

AVIATION RADIO

Transmitters.—The use of 50-watt multi-frequency crystal controlled aircraft transmitters still predominates with the commercial airlines although a considerable quantity of 100-watt transmitters are being used and serious consideration is now being given to the use of 250-watt transmitters in the large air liner of the future. The 50- and 100-watt transmitters obtain their power from the conventional 12-volt storage battery system, whereas the larger transmitters will be operated from a 115-volt alternating current system. The power rating of the multi-frequency crystal controlled ground station transmitters used by the commercial airlines started to change during the year from the previously used 400-watt rating to two and one-half and upwards to five kilowatt ratings at the major terminal points.

The government operated aeronautical radio range systems are rapidly being modified to the 400-watt simultaneous type and a great number of new stations of this simultaneous type are rapidly being installed as a means of expansion. The use of transmitters in the private flyer's airplane has increased considerably during the past year, transmitters having output rating up to 20 watts being the most extensively used.

Receivers.—The commercial airplanes are still using, (a) the conventional crystal controlled company communication receiver, (b) a continuously variable radio beacon and weather broadcast receiver with the addition of a filter to separate one facility from the other, and (c) the auxiliary receiver which can be used to cover either of the above two services. During the year it became mandatory to install a shielded loop antenna which can be used with the radio beacon receivers or auxiliary receivers under conditions of precipitation static to decrease the possibility of loss of the radio beacon facilities during storm conditions. The airlines are now rapidly installing 75 megacycle marker beacon receivers on the planes to allow the use of the positive cone of silence facility being installed at the radio beacons and the fan marker facilities being installed at approximately 30 miles from the radio beacon transmitter on the important legs of the radio beacons. The application of vibrator type power supply systems has been successfully made to aircraft receivers and is being used more and more as time goes on to supersede the old conventional dynamotor power supply. More and more use is being made of remotely controlled, crystal controlled ground station receivers in order to allow installation of these receivers at quiet receiver locations.

Requirements for Airline Aircraft Radio Equipment.—All aircraft radio equipment purchased and installed by the commercial airlines in the future must carry official civil aeronautic authority approval ratings. In order to obtain these approvals it is necessary that the apparatus be very carefully designed both electrically and mechanically and it must satisfactorily pass a great number of tests to determine its ability to give continued service in aircraft use.

Use of U.H.F. for Aviation Services of Future.—A great deal of experimental work is now being carried on by both the airlines and the aviation radio equipment manufacturers relative to the future use of frequencies in the 65 and 123 to 142 megacycle ranges for both navigational aids and 2-way communication purposes. It is expected that some of these U.H.F. services will go into commercial use during the year 1939.

DIRECTION FINDERS AND RADIO RANGES

Two methods are in current use in this country for location of aircraft in flight. The first of these is by means of the rather extensive system of ground station radio range transmitters operated by the Civil Aeronautics Authority. These radiate the conventional interlocked A-N signals and define "courses" radiating from each transmitter, usually in four directions. During the year numerous transmitters were relocated and increased in power for greater reliability. In addition, in the more important locations Adcock or "TL" radiators have been substituted for the older loop type. Simultaneous voice and range signals are now broadcast from many of these transmitters.

The second method of position determination is by means of a direction finder located aboard the airplane. The trend is toward visual indicating devices which show directly the bearing of the desired station, provision being made to eliminate automatically the 180-degree ambiguity present in the aural null type of loop. Two types have been developed which indicate on a 360-degree scale the bearing of the station used as a reference. One of these is provided with supplementary navigating scales for computation and for map plotting. All such loop type direction finders for the long wave and broadcast bands employ shielded loops for the reduction of precipitation and dust static. One of the direction finders developed provides means for automatic determination of bearings even under conditions of such static interference. The solution of orientation problems in making an approach to an airport in flying "on instruments" is very much facilitated by the utilization of automatic direction finders of these types. In addition, a "fix" may be obtained at any point along the route in cross-country flights.

As an additional safeguard for aircraft in flight, development has been made by two organizations of a ground station direction finder for the 3,000 to 6,000 kilocycle band. This is used for determination by means of cross-bearings of an airplane's position, utilizing signals radiated from the standard transmitter located aboard the craft. Both are of the direct reading type, the indication of bearing being shown on the face of a cathode ray tube. While no commercial installation has yet been made of this device, it is anticipated that it will be utilized in the future for rountine position location.

TELEVISION

The year was marked by refinement of all parts of the system in a steady advance toward commercial television. Late in the year it was announced that a limited program service would be inaugurated in New York City with the opening of the 1939 World's Fair in that city, and that receivers would be offered for sale to the public at that time. Standardization of the system has been achieved by industry cooperation, ready for this public service. Much attention was given to the problem of commercial program production. Research was directed toward the production of larger received pictures with greater contrast. In order to obtain the maximum picture detail with the standard 6-megacycle television channel, methods for suppressing the radiation of one video side band were developed and applied.

FACSIMILE

During the year the Federal Communications Commission granted a number of experimental licenses for facsimile broadcasting in the early morning hours on frequencies assigned to regular sound broadcasting service, and as a result, a number of broadcasting stations obtained the necessary transmitting and receiving equipment and have been providing regular facsimile service on an experimental basis, in order to investigate the possibilities of a commercial service.

SHORT RADIO WAVES

In the quest for more power at shorter wavelengths, the production of 20 watts at a wavelength of 8 centimeters (3,750,000,000 cycles per second) with an efficiency of about 20% was achieved during the year.

ELECTRONICS RESEARCH

Advances have been made on both the receiving and transmitting television tubes. The conventional Iconoscope and the Image Iconoscope have been improved in sensitivity, color response and definition, as a result of intensive research on the various elements entering into their construction. In addition, new types of pickup tubes using low velocity electron beams and new scanning techniques have been evolved which, although still in the laboratory stage of their developments, show considerable promise.

Black and white television pictures have been made practical as a result of improvements in the efficiency, stability and color of fluorescent screen materials. These improvements, together with increased knowledge of electron gun design, have made it possible readily to obtain large size pictures for public viewing by means of the projection Kinescope.

Ultra-high frequency required for the transmission of television signals has caused radical changes in both transmitting and receiving tubes to be necessary. The use of electron optics, advances in materials and construction and improved emitters make it possible now to produce both high and lower power tubes having fairly high efficiency at ultra high frequency.

INTERNATIONAL TELECOMMUNICATION CONFERENCES

Agreements.—Under the procedure of the International Telecommunications Convention at Madrid, 1932, two conferences were held at Cairo, Egypt, beginning February 1, 1938 and continuing into April: (1) International Radio Conference to revise the General Radio Regulations and associated documents, and (2) International Telegraph and Telephone Conference to revise the Telegraph and Telephone Regulations. The International Telecommunications Convention of Madrid, which is the basic document providing for the various regulations, was not subject to revision at these conferences and remains unchanged. The two conferences were run simultaneously and many of the government delegates were representatives to both conferences. The organization of each, however, was independent and, except for a relatively few joint plenary sessions, the conferences were completely separate. All the meetings were held at the Heliopolis Palace Hotel, near Cairo.

Three agreements which are subject to ratification resulted from the work of the two conferences: (1) General Radio Regulations, (2) Telegraph Regulations, and (3) Telephone Regulations. The Telegraph and Telephone Regulations were signed April 4, 1938, the General Radio Regulations April 8, 1938. The effective date of all these documents is Jan. 1, 1939 except Article 7 of the General Radio Regulations concerning allocation of frequencies, which becomes effective Sept. 1, 1939. The United States signed the General Radio Regulations, but, as at past conferences of this kind, did not sign the other two sets of regulations.

Radio Conference.—The most important article of the Radio Regulations is Article 7 dealing with allocation of frequencies to services since it provides the principal basis for many of the provisions which make up the rest of the regulations. In general, the allocation of frequencies to services made at Cairo follows those of Washington 1927 and Madrid 1932. The principal changes have to do with the arrangement of high frequencies assigned to mobile services to provide more adequately for aviation, additional frequency space for broadcasting, and the allocation of frequencies above 25,000 kilocycles.

There is at present a large amount of interference and much difficulty in providing safety communications for aircraft. This has been remedied to some extent in the new convention by providing more exclusive frequencies for European aviation. Practically all the major nations of the world have in operation or are contemplating long distance intercontinental aviation routes. To provide communication on these intercontinental routes, frequencies were selected in each of the mobile bands above 6,000 kc to be used on each of the projected intercontinental routes.

The frequencies so provided for aviation are to be used for safety and navigation purposes and are not intended to be used to carry communication services for the public. While not specifically stated in the regulations, it is the intention that public service communications shall be carried on with airplanes flying over the seas in the same manner and by the same stations that provide this service for surface ships.

The differences between the frequencies used for European broadcasting and for broadcasting in North America were continued. The band 160–265 kc was allocated for European broadcasting as under the Madrid Regulations.

The standard broadcast band (550–1500 kc) was extended to 1560 kc for broadcasting in Europe and provision was made for the use of 550–1600 kc for broadcasting in other regions, the portion of the band 1500–1600 kc being allocated on a shared basis with fixed and mobile services. The entire band is set up as an exclusive broadcasting band under the Inter-American Regional Arrangement.

Above 6000 kc the following international broadcasting bands were increased as follows:

6,000–6,150....increased to....6,000– 6,200
(50 kc from mobile service)
9,500–9,600....increased to....9,500– 9,700
(100 kc from fixed service)
17,750–17,800...increased to...17,750–17,850
(50 kc from fixed service)
21,450–21,550...increased to...21,450–21,750
(200 kc from mobile service)

The other broadcasting bands, 11,700–11,900 and 15,100–15,350 kc, were approved for continued use without change.

The assignment of frequencies above 25,000 kc is, in general, different as between Europe and other regions of the world. Above 30,000 kc, regions other than Europe maintain complete liberty to make assignments as the particular regions may desire. A special assignment for Europe is provided.

In the marine service, particular attention was paid to improving the regulations having to do with general procedure within the mobile service and operations concerning calling and distress.

The rules governing the operation of the International Consulting Committee on Radio (CCIR) were changed in more or less minor particulars. The scope of the CCIR was limited to technical questions and operating questions, the solution of which depends on considerations of a technical nature. This is, in effect, an extension of the scope of the CCIR, but will probably result in excluding automatically many questions now referred to the Committee.

Telegraph Conference.—The principal problems before the Telegraph Conference were (1) unified rate for code and plain language messages, and (2) use of the international gold franc for fixing of international rates and settlement of telegraph accounts. One committee, and several subcommittees thereof, spent practically the entire time of the conference discussing these two questions, considering proposals which had been made and studied for several years and many new proposals which were made during the course of the conference. While the majority of the representatives were in favor of unification of code and plain language rates, no formula for such unification could be agreed to for the extra-European region and the present differential was retained. For the European region, however, unification was adopted on a basis of 92% of the present plain language rate. The existing ratios between the various classifications of messages were retained.

International telegraph rates and settlement of telegraph accounts contemplate the use of the international gold franc set up by the Convention as a monetary base. With the changes that have taken place in monetary systems throughout the world, this basis had been departed from by several administrations and considerable differences had developed resulting in more or less general confusion. It was expected that this conference would clear the confusion, but it was unable to reach any conclusion on the subject. Consequently the old regulations stand, with reservations by many nations and notice by some that they intend to make private arrangements with other operating agencies.

The Telegraph Regulations with respect to the operation of international telegraph communications have been amended in many respects, some of which are major changes and other minor changes in wording.

Language of the Conferences.—An outstanding accomplishment of the conferences was the advance made in the use of the English language. As provided in the Convention, French was the official language of the conferences and English translations by official interpreters were made of all speeches made in French. This is very satisfactory for the actual work on the floor of the conference, but documents were issued in French only. For several years the Government of the United States has assumed the burden of translating all documents. The present conferences agreed that in the future all translations into English would be made by the Bureau of the Union, the expense being shared by the administrations and companies requesting copies. This will make the translations of all documents, including the books of proposals, generally available to all and at approximately the same time as the French documents. This should assist materially in facilitating the preparations for future conferences.

The next International Telegraph and Radio Conferences are to be held in Rome, Italy, in the fall of 1942.

TECHNICAL ADVANCES IN SOUND EQUIPMENT

By Lewis M. Clement

RCA Manufacturing Company

SOUND RECORDING

The year 1938 brought a continued improvement and refinement to all of the components used in sound recording. As a result, there has been a corresponding improvement in the product as supplied to the theatres. The increased use of ultra-violet light in recording and of push-pull sound tracks has resulted in improved frequency response and a reduction in background noise. Improvements in printers through mechanical refinements and the use of ultra-violet printing light has resulted in better sound prints. Microphones continue to be improved in sensitivity and frequency response as well as reduced in size. Uni-directional microphones are finding increased use, particularly under conditions where other types do not operate satisfactorily. Stage mixing is finding increased acceptance. There is a trend toward the use of volume compression with certain types of recording to improve intelligibility and to increase the average volume level. For other recordings where great dynamic range is desired "squeeze-track" is often employed to increase this effect. Recordings on lacquer-coated discs are often used for instantaneous playback to check film recordings. Equipment for this has been developed which gives results that compare favorably with film recordings. Newsreel equipments have been developed which record the sound track on the picture film using ultra-violet light for exposure and providing a Class "B" push-pull track. Although these equipments are compact and light in weight, they compare favorably in performance with studio recording channels. For trucks and small studio installations a double film recording system has been developed which duplicates the performance characteristics of studio systems.

35 MM SOUND-PICTURE REPRODUCING SYSTEMS AND ACCESSORIES

The year witnessed notable improvement of all 35 MM sound picture systems, components, and accessories. Design and manufacturing methods improved quality and lowered prices. Refinements covered many vital points, such as constancy of film motion, reduction of distortion, development of special tubes and other parts, servicing facilities, ease of operation, higher power handling capacity for the new high volume release prints, etc. Several complete new systems and projectors of high merit were brought out. Industry standards were improved to keep abreast of the art, resulting in generally improved reproduction. Active research on all systems, and also in correlated fields such as television, color, etc., presage many interesting developments for the year ahead.

COMMERCIAL SOUND ADDITIONS AND IMPROVEMENTS

During 1938 a number of very popular items were added to the commercial sound line featuring outstanding styling and advanced engineering features. New central control cabinets for providing convenient control of radio and phonograph distribution to various classrooms in schools and institutions, and providing instantaneous intercommunication between the control cabinet and any loudspeaker, were developed. New instantaneous recorders were developed for recording on lacquer-coated discs capable of recording and playback on 12″ and 16″ discs respectively, and also at 78 and 33-1/3 revolutions per minute respectively. These recorders are of the semi-portable or console type and the portable type with suitable carrying case. Improved general purpose amplifiers featuring better performance characteristics, greater reliability and lower cost were added to the line.

Loudspeaker mechanisms featuring greater sensitivity and improved frequency response were developed. Special attention was given to the use of permanent magnets for the field structure of high power public address speakers. New high power speakers capable of handling 50 and 100 watts of audio power and delivering larger acoustic outputs than available heretofore were also developed. Other phases of loudspeaker development kept abreast of other branches of the sound engineering art. Notable among these was the development of the co-axial type of two-way loudspeaker, resulting in a more homogeneous wave front with respect to frequency than other conventional types. Improved microphones were also a feature of 1938 development. One particular achievement was the development of a new and small uni-directional microphone of superior performance.

The year saw a great number of new and improved inter-communication systems featuring either one- or two-way communication, two-way communication being permitted by the use of a headphone as receiver and the loudspeaker as microphone, thereby insuring greater privacy in conversation. The steady progress made in all the various activities of commercial sound gives rise to the belief that further and even more interesting and useful items will be brought forward during 1939.

AUTOMOTIVE ENGINEERING

By Austin M. Wolf

Automotive Consulting Engineer, New York

GENERAL

The largest number of improvements in the new automobiles is in the direction of greater safety. Lower center of gravity, improved vision, more effective controls and indicators are among the industry's endeavor toward this notable end. Increased comfort also reacts on safety and we find roomier bodies, improved suspension and more comprehensive ventilating systems. More economical operation has been achieved by reduced weight, greater refinements in carburetion, the further use of the overdrive with improvements and the special finishing treatment of the wearing parts of the power plant. Styling with the new vogue in radiator grilles also includes concealed door hinges, the optional omission of running boards and a better correlation of metal trim with the sweeping lines of the new designs.

ENGINES

In general there have not been many improvements in engines as compared to developments in the other component parts of the automobile. One manufacturer provides an additional unit to his line by slightly decreasing the stroke of the standard six-cylinder engine, reducing the displacement from 230 to 216 cu. in. Another has increased the stroke and uses the same engine in two different models, thus simplifying manufacturing procedure. There has been a slight reversion to cast iron heads by which the compression ratio has been decreased slightly.

One engine with a supercharger is equipped with an aluminum head, whereas the standard model is provided with one of cast iron. Attempts have been made at weight reduction in head design by the use of lighter sections but maintaining strength by the use of stiffener braces at various points. One of the higher priced cars coats the valve tappet bodies with ferrous oxide. Hardened malleable iron rocker arms are used in one series of overhead valve engines in which event no bushings are used. In order to promote smoother running, one maker of V-8 engines located the fuel-pump eccentric in a position where it will oppose the cam shaft unbalance, and a counter-balance weight has been added to the cam shaft sprocket. Malleable iron cam shafts are making their appearance and they are hardened by an electric induction heating process prior to quenching. One maker has developed a finish of extreme smoothness whereby there is not more than approximately fifteen millionths of an inch variation from a perfect surface. This finish is applied to cylinder bores, pistons, piston-pins, crankshaft main and pin bearings, camshaft bearings and contours, valve tappets and stems and flywheel face for the clutch lining.

PISTONS AND RINGS

Piston rings coated with ferrous oxide have made considerable headway and at least the two top rings in most American engines are so treated. The piston top land has been widened in a number of instances to remove the top ring further away from the heat of combustion. Many compression rings which were previously ⅛″ wide are now 3/32″. In a number of cases the ring depth is made wider than the SAE standard in order to maintain more continuous contact between the ring and the cylinder wall. A popular make of V-8 engines provides steel expansion springs back of the oil control and the lower compression rings.

CRANKSHAFT AND LUBRICATION

The retention of oil within the crankcase is an important factor and improved crankcase sealing is much in evidence. More engines are now equipped with a packing at the rear main bearing between the oil throw and the flywheel flange. The seal on the front end of the crankshaft has been revised in a number of instances where a spring loaded rawhide type replaces the previous plain cork seal. Crankshafts have been increased in diameter in a number of instances. A low priced six-cylinder car now provides a torsional vibration damper on the crankshaft consisting of a pair of annular soft rubber rings, each having six raised bosses on one face. They are placed over the six studs riveted to the damper hub and in the riveting process the bosses are placed under compression and the outer member of the damper becomes insulated from the hub with the necessary cushioning there between.

The floating type of screened oil inlet has found further incorporation in the lubricating system. One engine is provided with a shorter and deeper oil pan, concentrating the supply and reducing aeration of the oil at all times, particularly when the oil pan is overfilled.

COOLING SYSTEM

The use of a crankshaft mounted cooling fan has found new adherents, this being due to the low radiator core heights brought about by the restrictions of the front-end sheet metal work. In some instances the vibration damper is incorporated directly in the fan hub. There is an increasing use of a pressure vent in the filler cap of the cooling system which permits raising the boiling temperature of the water which in one case is 229 degrees F. at sea level. The low core height used in conjunction with some V-8 engines affords greatly increased accessibility for working on the power plant.

Most water pumps are now mounted on ball-bearings, supplementing the previous porous metal bushings. The chevron packings that were recently popular have been replaced by self-contained spring-loaded molded rubber composition seals or those of the graphite disc type.

FUEL SYSTEM

The automatic choke is now becoming an integral part of the carburetor in place of the separate unit formerly used. This eliminates the previous linkages and extraneous parts. Gasoline tank capacities have been increased in a number of instances and an improvement in the electric type gasoline gauge on many cars consists of placing the contact which is moved over the resistance coil directly on the tank float arm instead of imparting this motion through gears. A small step on the inside bend in the intake manifold end branches of one six-cylinder engine throws the liquid particles out into the mixture stream and thus provides more uniform distribution to each of the two end cylinders that are fed from these branches. In order to keep floor height as low as possible, most engines are inclined in the chassis at a greater angle. One make provides a horizontal main branch of the intake manifold with the short branches to the cylinder block offset to accommodate the variation.

ELECTRICAL SYSTEM

The 10 mm. spark plug has found new adherents. A new high tension cable consists of a seven strand conductor of stainless steel in lieu of the conventional 19-strand copper cable.

Generator output has been further increased to take care of the demands of the many electrical accessories. The overrunning clutch of many starting motors has been redesigned so that the wedging cam angles are located in the outside collar instead of the inner sleeve whereby centrifugal force tends to disengage the rollers as soon as the load upon them is released. One engine is provided with a starter switch integral with the carburetor. It consists of a stainless steel ball that is moved upward at an angle by a cam on the throttle shaft when the latter is rotated. In turn a plunger is raised on which is mounted a "W"-shaped contact spring to close the solenoid relay circuit. When the engine starts, the vacuum in the carburetor raises the ball allowing the plunger to return and thus opening the circuit. To prevent overfilling the battery, one maker provides an air lock to cut off further entry of water when the solution reaches the bottom of the air vent extension. The filler hole cap has no vent hole in it and when placed over the special vent provided, the filler opening becomes the only means of escape for the air above the solution.

CLUTCH

The diaphragm spring clutch has been extended to another line of cars. Another make incorporates the same principle excepting that a corrugated surface with 12 waves replaces the 18 inturned fingers of the plain diaphragm type. To reduce the polar moment of inertia and thus materially help gear shifting, a minimum amount of metal is used in many clutch driven plates. Cushion members or springs are riveted to extend radially outward from the center disc. They are of wave form and are riveted to each clutch facing on alternate waves in the spring. By altering the shape of the fingers on the inner ends of the throwout levers and considerably increasing the fingerface contact area, one manufacturer permits them to ride directly on the graphite throwout ring, simplifying the structure and improving ventilation considerably. Pedal linkages incorporate to a greater extent the over-center spring, and pedal pressure has been reduced in many instances.

TRANSMISSION

In most cars steering column shifting of the transmission gears is provided either as standard or optional equipment. In most cases the operation is done mechanically. When moving the shift lever through the neutral position, a flexible cable or a bell crank rod and lever construction is used to permit the selection of the desired shift rail in the transmission. When the shifting lever is actuated, movement is usually imparted by a rod running between the shifting lever on the transmission and the lever at the base of the steering column control. One low priced car is provided with an optional power shift in which a vacuum cylinder and piston are attached to the transmission and aid the operator in the gear shifting process. A reactionary lever system is provided so that the operator retains the "feel" of the shifting action and thus preventing abrupt clashing.

To preserve low floor heights, there is an increasing use of an extension at the back of the transmission. This also reduces the length of the propellor shaft. Over-center springs are also being used to ease the pressure required to bring the gears into mesh. One transmission incorporates a construction in which all gears are in mesh and are of the helical type except for the reverse gear train which is of the spur gear type with a sliding gear on the main shaft.

An important improvement in the overdrive principle is the incorporation of a means to permit the operator to return to direct drive at will. The forward end of the overdrive sun gear is carried in a notched circular member, one of these notches being engaged by a pawl when the overdrive is in use. It can be withdrawn by means of a solenoid, and to permit its easy withdrawal ignition is interrupted for a few explosions which are not noticeable to the operator and at which instant the load on the pawl is released due to torque reversal. When the pawl reaches its outward position, ignition is re-established and a second or holding coil retains the pawl out against a comparatively light return spring. Under these conditions the direct drive is taken up by the roller clutch of the overdrive unit. The automatic transmission with hydraulic control introduced last year has been improved by softening the downward shift from third to second as the car is about to stop. This has been accomplished by an hydraulic accumulator which permits a slow drop in oil pressure and eliminates the previous abrupt engagement of the planetary gear sets.

REAR AXLE AND BRAKE

The hypoid gear type of rear axle has been adopted by two more manufacturers. There is a growing use of a compressible steel spacer between the two bearings on the pinion shaft in place of the former shim adjustments. One axle is provided with a needle-bearing-mounted roller back of the ring gear and contacts it should the deflection reach .005".

Hydraulic brakes are now universally used except for one manufacturer of miniature cars. In its adoption by one of the larger manufacturers, the piston operating the forward brake shoe on both the front and rear axle is larger in diameter than the piston operating each rear shoe. Pedal effort is thus materially lessened. Each shoe has its individual anchor pin. The hand brake on one of the high priced cars incorporates a roller ratchet which will lock in any position. One car in the low priced group provides a pull-rod hand brake system with the lever under the dash at the left in place of the usual flexible cable.

REAR SUSPENSION AND TORQUE MEMBERS

There are two instances of a variable rate rear spring whereby equal comfort is obtained whether the car is lightly or fully loaded. One manufacturer accomplishes this by using a three-leaf auxiliary spring below the main spring. The other maker accomplishes the variable rate by the use of a tension shackle which imparts a variable rate depending upon its angular position. Another manufacturer has adopted coil springs for the rear suspension. The axle is held transversely by the customary cross-link. The axle is held fore and aft to take braking and driving forces, as well as the torque reaction of the axle housing, by a pair of channel-shape arms which extend forward from the axle and taper toward the center of the car. They are anchored by a rubber bushing support on the frame X-member. They are rubber insulated from the axle housing, passing beneath it and extending to the rear to form the bottom seats for the coil springs. A similar type of channel section arm is used by a manufacturer associated with the torque tube drive. The arms taper forward to the torque ball and are anchored at the front of the tube by being bolted to a riveted-on member. They also extend to the rear of the axle housing to form a lower coil spring seat. The torque ball is now covered with a rubber coating vulcanized to it and treated so as to make it self-lubricating. The friction created by the clamping action of the inner and outer retainers affords a rear axle damping control.

The frame anchorage of the cross-link to hold the rear axle in transverse position is attached to the frame of one car by securing it to the pitman arm of an hydraulic shock absorber. In combination with the tension shackle, previously mentioned, to impart a variable rate to the spring, this particular manufacturer has increased the camber of the spring and the main leaf is placed as close as possible to the bottom of the axle housing. In so doing, the car roll center has been raised and passes substantially through the axle center line. In this way, should one wheel go up and the other down, the axle rotates about its own center and no side force is exerted against the springs, thus minimizing body shock and axle tramping. With this result, it has been possible to eliminate the previously used cross-link.

FRONT SUSPENSION

Several cars are equipped with stampings in place of forgings for the lower link of the individual front suspension. The threaded bearings at the outer ends as well as the inner, when such bearings are used, are machined into the extruded bosses of the stampings. Several of the manufacturers provide rubber bushings at the inner end of the lower links, eliminating any lubrication requirement. Generally the redesign of the lower links has been accomplished with increased ground clearance, a reduction in unsprung weight and a higher rolling center. One manufacturer who previously suspended each front wheel at the end of an arm has now adopted the parallel link type of suspension, making a considerable weight saving in the change-over and reducing the stresses in the various parts considerably. The new design does not follow the previous parallel link construction in that the frame mounting shaft for the lower link and the shock absorber shafts are parallel with the longitudinal center line of the car.

FRAMES

The I-beam type of X-member frames incorporates a more economical distribution of metal by the use of narrower but thicker upper and lower flanges and in many instances a greater overall height. To obtain a lower center of gravity of the vehicle, many frames have a greater drop so as to be lower to the ground. In order to obtain adequate clearance, the running board hangers in one make extend through the side rail near its neutral axis in place of the customary under-frame location. There has been a reduction in weight in many instances. One car with transverse springs clips them to an auxiliary member which in turn is rubber insulated in the cross member at each end of the frame.

CONTROL

Three of the new cars incorporate a more accurate steering control by the use of a cross drag-link actuated by the steering gear pitman arm, the link being supported at the right side by an idler lever symmetrically located with respect to the pitman arm. The drag-link to each wheel steering-arm is ball-jointed to the cross drag-link at a point inside the pitman arm and idler lever ball-sockets. Rubber bushings are incorporated in the pitman arm on the two models of one low priced make in order to insulate the steering wheel from road shock. Steering gear ratios have been reduced in many cases. Plastic wheels are very common and a variety of spoke spacing is to be found, with a view to better instrument vision.

EQUIPMENT

Head-lamps built into the front fender-crowns are very popular. The trunk lid emblem of one make forms a flashing directional signal which is operated by a small flip-switch on the gear shift lever under the steering wheel and a small pilot light at the left of the switch indicates whether or not the signal is flashing. Most instrument boards incorporate the use of plastics with the speedometer and instrument immediately in front of the driver, often combined under one glass. A safety type speedometer is used in one series of cars in which a transparent button on the pointer disc shows green up to 30 mph, yellow between 30 and 50, and red thereabove. This is obtained through the use of an illuminated transparent window beneath the disc and which varies in color between the ranges mentioned. In many instances the speedometer numerals are considerably increased in size for better visibility.

The heating and ventilating of cars is receiving more consideration. In one car a heating unit is located beneath the front floor panel under the left front seat and consists of a hot water core beneath which a fan and a vertical electrical motor are located. A sealed metal housing surrounds this unit and air is drawn through a passageway located above the running-board and, after passing through an air filter encompassing the other members, the heated and cleaned air is discharged beneath the front seat where suitable apertures distribute it between the front and rear compartment. The dash-mounted heating unit introduced in 1937 by one maker has been improved by the addition of a temperature-control dial, and a fan switch on the face of the unit, just below the instrument panel together with an automatic thermostat controlling the water flow through the heating core, has been added.

A new type of shock-absorber has been introduced consisting of two horizontal cylinders, one above the other, and the pistons being actuated by a vertical arm on the shock-absorber shaft with a cam at each end. Each cylinder is positively filled from the pressure discharge of the other. The piston rods in one make of direct acting shock-absorbers are now chromium-plated. In the conventional type of opposed cylinder shock-absorbers, the transfer of oil from one end to the other is now through holes in the shock-absorbers body instead of through piston-mounted valve chambers, where they are free of vibration and inertia.

GRILLES AND SHEET METAL

The low location of the radiator grilles introduced in 1937 has been widely adopted. In some instances they are supplemented by a low narrow center grille or by a few openings in the forward end of the hood sides. Where side grilles are used, scoops in the fender sheet-metal work direct the air to the radiator core. The alligator hood is more widely used, and one maker hinges the hoods of his models at the front and provides a latch control lever at the left side of the instrument panel. This leaves the hood in a locked condition when the doors are locked. To insure full air draft in the low louvres, the right fender in a number of instances carries a license to prevent blocking of the air-stream. The center portion of one front bumper consists of two streamlined bars over the center portion for the same purpose.

BODY

Lower, wider and roomier bodies are universal, and visability has been increased considerably. The windshield posts have been made smaller, the height of the windshield increased and the corner radii reduced, as well as in the windows. The glass area of windshield and windows has all been increased. The sunshine top has been introduced and provides an opening 24″ long and 40″ wide above the front seat. This is borrowed from foreign designs which, however, have larger openings.

The bulging trunk has been removed from a number of cars and the tail end has been streamlined to avoid all protuberances. Another body design trend is to carry the side panels back into the trunk, full width, to emphasize length and apparent lowness. A sharp crease below the windows gives the effect of a distinct super-structure.

One series of cars is equipped with electric windshield wipers operated by an electric motor. A sliding bolt lock has been added to the ventipane window to engage the vertical window guide, preventing the window from being forced open from the outside. Some of the new models are equipped with a narrow chrome beading around the windows. Optional running-boards are now available on many makes. This is readily done since the fenders are separate from the running boards. One make provides a skirt on the doors which covers the running board and keeps it clean. At the same time the running-board mat is concealed from sight and does not break up the continuity of color. The front door upper hinges are concealed in many makes and some cars also conceal those of the rear door. Easier and quieter operation of the doors in some makes is provided by a pivoted safety latch which is held in position by a small coil spring recessed in back of the striker-plate and which is deflected when the lock bolt passes over it. This is in contrast with the customary double-wedge striker plate.

PERIODICAL PUBLICATIONS

Civil Engineering
29 West 39th. Street, New York City.

Construction Digest
130 Seventh Street, Pittsburgh, Pa.

Construction Methods and Equipment
330 West 42nd. Street, New York City.

Contractors and Engineers Monthly
470 Fourth Ave., New York City.

Diesel Power
192 Lexington Ave., New York City.

Electrical Communication
67 Broad Street, New York City.

Electrical Engineering
29 West 39th Street, New York City.

Electrical World
330 West 42nd. Street, New York City.

Electronics
330 West 42nd. Street, New York City.

Engineering and Mining Journal
330 West 42nd. Street, New York City.

Engineering News-Record
330 West 42nd. Street, New York City.

General Electric Review
General Electric Company, Schenectady, N.Y.

Journal of Engineering Education
University of Pittsburgh, Pittsburgh, Pa.

Journal of the Society of Automotive Engineers
29 West 39th. Street, New York City.
Mechanical Engineering
29 West 39th. Street, New York City.
Motor
572 Madison Ave., New York City.
National Engineer
5447 Wayne Ave., Chicago.
Popular Mechanics Magazine
200 East Ontario Street, Chicago.
Popular Science Monthly
353 Fourth Ave., New York City.
Power Plant Engineering
53 West Jackson Boulevard, Chicago.
Professional Engineer
8 South Michigan Ave., Chicago.
Radio and Electric Appliance Journal
1270 Sixth Ave., New York City.
Radio Engineering
19 East 47th. Street, New York City.
Radio Guide
551 Fifth Ave., New York City.
Radio Industries
35 East Wacker Drive, Chicago.
Radio Journal
1270 Sixth Ave., New York City.
Radio World
145 West 45th. Street, New York City.
Railway Mechanical Engineer
30 Church Street, New York City.
Sibley Journal of Engineering
Cornell University, Ithaca, N.Y.
Tech Engineering News
Massachusetts Institute of Technology, Cambridge, Mass.
Technology Review
Massachusetts Institute of Technology, Cambridge, Mass.
Universal Engineer
150 Nassau Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ALLIED BUILDING METAL INDUSTRIES, 542 West 27th St., New York City.
AMERICAN ASSOCIATION OF ENGINEERS, 8 S. Michigan Ave., Chicago, Ill.
AMERICAN CERAMIC SOCIETY, 2525 N. High St., Columbus, O.
AMERICAN CONCRETE INSTITUTE, 7400 Second Blvd., Detroit, Mich.
AMERICAN CONSTRUCTION COUNCIL, 28 W. 44th St., New York City.
AMERICAN ENGINEERING COUNCIL, 744 Jackson Place, Washington, D.C.
AMERICAN FOUNDRYMEN'S ASSN., 222 W. Adams St., Chicago, Ill.
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Bellevue Court Building, Philadelphia, Pa.
AMERICAN INSTITUTE OF CONSULTING ENGINEERS, 75 West St., New York City.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS, 33 W. 39th St., New York City.
AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, 29 W. 39th St., New York City.
AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.
AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.
AMERICAN RADIO RELAY LEAGUE, 38 La Salle Road, West Hartford, Conn.
AMERICAN RAILWAY ENGINEERING ASSN., 59 East Van Buren St., Chicago, Ill.
AMERICAN ROAD BUILDERS ASSN., National Press Bldg., Washington, D.C.
AMERICAN SOCIETY OF CIVIL ENGINEERS, 33 W. 39th St., New York City.
AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS, 51 Madison Ave., New York City.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS, 29 W. 39th St., New York City.
AMERICAN SOCIETY OF METALS, 7016 Euclid Ave., Cleveland, O.
AMERICAN SOCIETY OF MUNICIPAL ENGINEERS, 4359 Lindell Blvd., St. Louis, Mo.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

American Society of Naval Engineers, Navy Department, Washington, D.C.

American Society of Refrigerating Engineers, 37 W. 39th St., New York City.

American Society of Safety Engineers, 25 W. 39th St., New York City.

American Society for Steel Treating, 7015 Euclid Ave., Cleveland, O.

American Society for Testing Materials, 260 S. Broad St., Philadelphia, Pa.

American Standards Assn., 29 W. 39th St., New York City.

American Statistical Assn., 722 Woodward Bldg., Washington, D.C.

American Water Works Assn., 22 East 40th St., New York City.

Highway Research Board of the National Research Council, 2101 Constitution Ave., N.W., Washington, D.C.

Illuminating Engineering Society, 29 West 39th St., New York City.

Institute of Radio Engineers, Inc., 330 West 42nd St., New York City.

National Aeronautic Assn., 1909 Massachusetts Ave., N.W., Washington, D.C.

National Board of Fire Underwriters, 85 John St., New York City.

National Fire Protection Assn., 60 Batterymarch St., Boston, Mass.

National Research Council, 2101 Constitution Ave., N.W., Washington, D.C.

National Slate Assn., 644 Drexel Bldg., Philadelphia, Pa.

New York Electrical Society, 29 W. 39th St., New York City.

Radio Club of America, 11 W. 42nd Street, New York City.

Radio Manufacturers Association, 1317 F Street, N.W., Washington, D.C.

Society of Automotive Engineers, Inc., 29 W. 39th St., New York City.

Society of Naval Architects and Marine Engineers, 29 W. 39th St., New York City.

Society for Promotion of Engineering Education, Univ. of Pittsburgh, Pittsburgh, Pa.

The Engineering Foundation, 29 West 39th St., New York City.

The Society of Motion Picture Engineers, Hotel Pennsylvania, New York City.

Western Society of Engineers, 205 Wacker Drive, Chicago, Ill.

DIVISION XX
GEOPHYSICAL SCIENCES

EARTHQUAKES AND VOLCANOES

By N. H. Heck

United States Coast and Geodetic Survey

EARTHQUAKES IN FOREIGN AREAS

The year 1938 had only a moderate number of destructive earthquakes and none of major proportions. During the 12 months beginning Nov. 1, 1937, there were 44 quakes strong enough to be widely recorded on seismographs. These were confined to the principal earthquake belts. On Dec. 23, 1937, houses were destroyed in Mexico City, Mex.; in Europe and the Near East, earthquakes caused destruction on April 19, 1938 in Anatolia, Turkey, with 40 villages damaged and several hundred lives lost; June 11, in Belgium with damage in Brussels and vicinity and adjacent France; and July 20, at Euboea, near Athens, Greece.

IN UNITED STATES, ALASKA, AND HAWAII

There were no important earthquakes in the United States, except that several occurred near large cities: Feb. 12, Gary, Ind., felt in Chicago; July 29 and Aug. 2, Westchester County, N. Y., felt in New York City; August 22 and 23 near Trenton, N. J., felt in Philadelphia. A moderately strong shock in an unusual place was that in Blair County, Penn., on July 15. There was a strong shock near Memphis, Tenn., on Sept. 16. In California there were seven strong shocks during the year but none destructive. On Jan. 22, 1938 a rather severe submarine earthquake centering near Maui was felt in Honolulu, T. H. There were a number of minor shocks at Fairbanks, Alaska.

SEISMOLOGICAL STATIONS

For the accurate location of earthquakes there are in the United States 49 active seismograph stations and a number of others now inactive which may return to activity, and there are others in contemplation. These stations are operated by the National Government, by educational and scientific institutions, and by individuals. New stations have been established at Wrentham, Mass. and Boulder City, Nev., and the Salt Lake City, Utah, station has been restored to full operation. In addition, there are two stations in Alaska, one in Hawaii (in addition to a number for recording earthquakes of volcanic origin), one in Puerto Rico, and one in the Panama Canal Zone. There are two in South America operated by scientific organizations of the United States—Huancayo, Peru, (Carnegie Institution of Washington) and Montezuma, Chile (Smithsonian Institution). Through American participation in an international project a station is being established at Bermuda.

Through the cooperation of many of these and certain foreign stations in sending immediate telegraphic reports to Washington, the Coast and Geodetic Survey, the Jesuit Seismological Association, and Science Service are enabled to locate and announce almost immediately the location of earthquakes in the Atlantic and Pacific Oceans and the Americas. A similar European service takes care of the rest of the earth. During the past year an average of three and two-thirds earthquakes per month were located.

EARTHQUAKE LOCATIONS AND OBSERVATIONS

The purpose of these stations is to locate earthquakes accurately, both in position and depths, and to determine their relation to geological formations. Very deep earthquakes (several hundred miles) are now readily located.

In addition to the stations mentioned, all of which have continuously operating instruments, strong-motion seismographs, which operate only when set in motion by destructive or near-destructive ground movements, installed by or in cooperation with the Coast and Geodetic Survey, are now in operation. There are 51 in California, four each in Nevada and Montana, and one in the Panama Canal Zone. A strong-motion attachment has been added to the Honolulu seismograph. The information obtained is both of engineering and seismological significance. Records were obtained from nine earthquakes during the year in California and Nevada. The best record was obtained from a sharp local earthquake near Ferndale, Calif. on Sept. 12.

In order to have a complete account of every earthquake, instrumental determinations must be supplemented by reports of observers. In parts of the United States where earthquakes are infrequent, questionnaires are furnished to selected observers immediately after an earthquake. The observers of the Weather Bureau report on earthquake activity. In New England an organized group centering in Weston College, Weston, Mass., cooperates with the Government in securing reports. In the Mississippi Valley region the Jesuit Seismological Association at St. Louis secures the information. In the western mountain and Pacific coast region there is a joint arrangement between the Coast and Geodetic Survey and designated state representatives, with cooperation from many public service agencies.

Though earthquake studies are carried on in many parts of the country, there are five principal centers where records are analyzed or applications made of the material furnished. These are Berkeley, Calif. (University of California); Pasadena, Calif, (Seismological Laboratory of the California Institute of Technology and the Carnegie Institution of Washington); Saint Louis University (Jesuit Seismological Association); New England (now centering at Weston College, Weston, Mass.) and Washington, D. C. (United States Coast and Geodetic Survey). Engineering studies are being made at California Institute of Technology, Stanford University, and Massachusetts Institute of Technology. Various agencies are working on building codes, requiring greater resistance to earthquake damage.

RELATED MEASUREMENTS

Earthquakes are related to crustal movements whether they occur at the time of an earthquake or at other times. These movements are determined by means of geodetic triangulation and leveling by the United States Coast and Geodetic Survey, and work for this purpose was done during the year. Determination of tilting of the crust, which is a form of crustal movement, has been made at Buffalo, N. Y., and at Berkeley, Calif. The recording by delicate microphones of sounds arising within the crust which may relate to crustal changes in the vicinity of active faults, leading to earthquakes, has continued along the Hayward Fault near Oakland, Calif. Other measurements associated with earthquakes in relation to engineering are determination of periods of buildings and of the ground. Some work was done during 1938.

Interested organizations in the United States which deal with the subject from a national viewpoint, include the Seismological Society of America and its Eastern Section and the Section of Seismology of the

American Geophysical Union. The latter is also the American branch of the Seismological Association of the International Union of Geodesy and Geophysics. The latter organization has a commission which deals with tidal or seismic sea waves and with storm waves, and there is an American committee for the collection of such information.

PUBLICATIONS

Several publications of general interest include: *Earthquake History of the United States,* Parts I and II, and *United States Earthquakes* for each year from 1928 to 1936, which are issued by the United States Coast and Geodetic Survey. The list of earthquakes of the earth as a whole is given in the *International Seismological Summary* prepared at Oxford University, England.

VOLCANOES

There were two important volcanic eruptions during the year; June 8, there began a six-day eruption of Mayon on Luzon, Philippine Islands, and on Jan. 28, there began an exceedingly liquid lava flow from Nyamlagira Volcano, near Lake Kivu, Belgian Congo (comparable to Etna and Mauna Loa). The flow exceeded 100,000,000 cubic meters. Other minor eruptions included: Nov. 3, 1937, Yunaska Volcano, Aleutian Islands; April 4, 1938 Sakurajima in Japan, and April 20 and July 16, Mt. Asama, Japan. There was little volcanic activity in Hawaii, where the usual seismograph, tilt, and other observations were obtained. There are indications that the interest in attack on volcanic problems by geophysical methods is growing.

ECONOMIC GEOLOGY

By Charles H. Behre, Jr.

Professor, Northwestern University

GENERAL

A large part of the progress made in economic geology must be measured in terms of progress in basic theories. At the same time advances are also necessarily made in applying theories. Discussion of each of the major subdivisions of economic geology — petroleum, coal, industrial minerals, ore deposits, and ground water—thus rationally falls into two subdivisions, the theoretical and the applied. In considering these two subdivisions for each subject, only the more conspicuous developments in the United States can be listed.

PETROLEUM AND NATURAL GAS

Of outstanding interest is the increased depth of successful drilling, reaching 13,000 feet for the first time. Deep drilling increases the accessible productive strata; moreover, it furnishes information respecting deeply buried beds. A well at Wasco, Calif. reached 15,004 feet in depth, 6,475 feet deeper than the deepest mine workings known. Production in California has come from a maximum depth of 13,175 feet; in Louisiana (Terrebonne Parish) two productive wells are over 13,250 feet deep.

Of special interest has been the study of the detailed stratigraphic sequence along the Atlantic and Gulf Coasts (*e.g.,* in Amer. Assn. Petrol. Geol., *Bull.,* vol. 22, 1938: O. C. Postley, pp. 799–815; C. W. Cooke and A. C. Munyan, pp. 789–793; and D. W. Gravell and M. A. Hanna, pp. 984–1013). Much of this region has now been electrically "logged" (cf. Bornhauser and Bates, Am. Assn. Petr. Geol., *Bull.,* vol. 22, p. 297, *et seq.,* 1938). Other regions that have been studied in great detail are the Michigan Basin (Hake, Am. Assn. Petr. Geol., *Bull.,* vol. 22, pp. 393–415, 1938) and Illinois (Wasson, Am. Assn. Petr. Geol., *Bull.,* vol. 22, pp. 71–78, 1938; Bell and Cohee, *op. cit.,* pp. 649–653); these two States have undergone a surprisingly late parallel development. Both fields owe their growth largely to geophysical exploration and careful study of subsurface geology; in Illinois production has been assisted by acid treatment. Of special interest among regional studies are those by Price and Headlee (Am. Assn. Petr. Geol., *Bull.*, vol. 22, pp. 1182–1183, 1938), relative to the special conditions governing the use of total heating values as guides to the occurrence of oil.

Interest continues among petroleum geologists in the factors affecting oil and water movements. Recent papers have dealt partly with the theory of accumulation, partly with the application of these theories to oil field practice (cf. Moore, Amer. Assn. Petr. Geol., *Bull.*, vol. 22, pp. 1237–1249, 1938).

Finally, the distinctive petroleum reservoirs designated "shoestring sands" were discussed in important papers of recent date (Bass, Kansas Geol. *Survey Bull.* 23; Rich, Amer. Assn. Petr. Geol., *Bull.*, vol. 22, pp. 823–833, 1938).

COAL

During the year the accumulation of standard data on coal continued. Thus, the U.S. Bureau of Mines published, late in 1937, an excellent summary bibliography of its coal investigations. Coal classification is helpfully discussed by Hendrichs (*Econ. Geol.*, vol. 33, pp. 136–142, 1938). Hendrichs summarizes the report by the Committee on Coal Classification of the American Society for Testing Materials; these standards are now adopted by the A.S.T.M. and the American Standards Association., The basic plan is a classification based on fixed carbon and heat value in B.t.u. (on a mineral-matter-free basis); the heat value is on a dry basis for the higher and a wet basis for the lower ranks. It remains to persuade producers and consumers to accept and adopt this scientific classification.

Coal resources of several regions, notably Alaska, Arkansas, Kentucky, Montana, and Oklahoma, appeared during the latter part of 1937 and in 1938. In Illinois the State Survey pursues studies that are economically and theoretically important, dealing with the constitution of coal (*e.g.*, Mitchell and McCabe, Report of Investigations 48, 1938). Of interest to economists, geographers, and geologists is the recently published symposium on conservation of coal in India (Geological, Mining, and Metallurgical Society of India, *Bull.* 1, 1937).

INDUSTRIAL MINERALS

The rapid growth in importance of the industrial minerals in recent years has been excelled only by awareness of that importance. At Knoxville the American Institute of Mining and Metallurgical Engineers discussed geology and exploitation of barite (Hale, Modern Mining and Beneficiation of Barite at Cartersville, Georgia: A.I.M.M.E., *Mining Technol.,* Sept. 1938; Rankin, Laurence, and others, Concentration tests on Tennessee Valley barite: A.I.M.M.E. *Mining Technol.,* March, 1938). Fulda's recent summary of the occurrence of sodium and potassium salts (*Die Lagerstatten der nutzbaren Mineralien und Gesteine,* Bd. III, Teil 2, Steinsalz und Kalisalz, 1938) should be of great general use.

In this country studies of phosphates have proceeded energetically, partly through private initiative, partly under auspices of the U.S. Geological Survey, aided by P.W.A. grants. Valuable are a summary of the ground mica industry (Tyler, "Technology and Economics of Ground Mica," A.I.M.M.E., *Mining Technology,* March, 1938); a discussion of physical properties of building stones (Griffith, Iowa State Coll. *Bull.* 131, 1937); and complete reports on asbestos (Bowles, U.S. Bur. Mines *Bull.* 403, 1937), lime (Lamar and Willman, Ill. Geol. Survey Rept. Investig. 49, 1938), and fluorspar (Hatmaker and Davis, Fluorspar, Ill. Geol. Survey *Bull.* 59, 1938). Useful, too, from the industrial viewpoint are the new Markets Circulars by the Tennessee Geological Survey. Among regional studies, those of the pegmatites of New Mexico (Just, New Mexico School of Mines *Bull.* 13, 1937), and of the salt brines of West

Virginia (Price, Hare, and others, *West Va. Geol. Survey,* vol. 13, 1937) are conspicuous.

GROUND WATER

In addition to several reports by the various state geological surveys and U.S. Geological Survey, dealing with specific regions, the excellent general text by C. F. Tolman (*Ground Water*), appearing at the close of the year 1937, represents a great step forward. Interest continues to be shown also in the effect of the proposed Florida Ship Canal on underground water supply of neighboring territory (Paige, *Econ. Geol.,* vol. 33, pp. 647-665, 1938).

Methods of estimating safe yield of ground water were presented in the recent article by Sayre ("Estimating Safe Yield as Illustrated by the El Paso, Texas, Ground Water Investigation," *Econ. Geol.,* vol. 33, pp. 697–708, 1938).

METALLIFEROUS DEPOSITS

As the larger ore reserves become depleted the smaller deposits attract progressively greater interest. Search for ore deposits and their utilization and improvements in technologic methods are indicated by widely diversified current literature (*e.g.,* Hubbert, "The Place of Geophysics in a Department of Geology," A.I.M.M.E., *Mining Technology,* May, 1938; Loel, "Use of Aerial Photographs in Geologic Mapping," A.I.M.M.E., *Mining Technology,* March, 1938; Schwartz, "Review of the Application of Microscopic Study to Metallurgical Problems," *Econ. Geol.,* vol. 33, pp. 440–453, 1938).

From the genetic viewpoint interest has been revived in the disseminated (so-called sedimentary) copper, silver, and uranium-vanadium deposits of the Southwest; Fisher (*Econ. Geol.,* vol. 33, pp. 906–951, 1937) lately argued for a sedimentary origin of such ores; Koeberlin (*Econ. Geol.,* vol. 33, pp. 457–461, 1938) suggests that their ultimate source might still be hydrothermal, in the sense that they were given off by volcanic vapors or ash. This suggestion is parallel to that of Emmons ("Diatremes and Certain Ore-bearing Pipes," A.I.M.M.E., *Mining Technology,* May, 1938), tracing many ore deposits to volcanic necks and other varieties of explosion pipes.

The position of gold in typical mineral sequences is discussed by Mawdsley (*Econ. Geol.,* vol. 33, pp. 194–210, 1938) and Ödman (*Econ. Geol.,* op. cit., 1938). Upon evidence in differing regions these investigators contend that the gold was generally distinctly later than most of the rest of the mineralization (Mawdsley) and, oppositely, that it is of the same age as several of the sulphide and gangue minerals (Ödman).

Experiments reported by Page (*Econ. Geol.,* vol. 33, pp. 522–541, 1938) seem to show that native copper and silver may be deposited by cooling from chloride solutions having temperatures at least above 100°C. and probably above 200°C.

In articles in *Economic Geology,* Arthur Holmes and others continue to debate the possible derivation of the lead in metalliferous deposits from some far deeper material than the near-surface magmas that are usually regarded as the source of metalliferous deposits.

Structural control of ore deposition is receiving increasing attention. A symposium on "Structural Control of Ore Deposition," prepared by the Committee on Processes of Ore Deposition of the National Research Council, under the direction of W. H. Newhouse, is nearing completion. Numerous regional studies by mining companies and surveys have contributed important details. The U.S. Geological Survey has this year had some 35 field parties engaged in a study of metalliferous deposits, including several in Alaska and Hawaii. Special attention was devoted to gold, mercury, manganese, and iron ores, the latter especially in Alabama, Tennessee, and Texas. Similar government work in the Philippine Islands is also well under way. A volume on the Lake Superior iron ores, to be published by the Iron Ore Association, is nearly finished. The Tucson meeting of the American Institute of Mining and Metallurgical Engineers brought forth excellent summaries of ore deposits in Arizona and New Mexico.

Finally, Sales (*Econ. Geol.,* vol. 33, pp. 239–250, 1938) discussed very pertinently the sources and trustworthiness of field and laboratory evidence relative to the origin of ore solutions, pointing to the importance of carefully relating the two kinds of evidence to each other.

ECONOMIC GEOGRAPHY

By Lewis Heck

United States Coast and Geodetic Survey

GENERAL

In its broadest lines economic geography deals with the production, transportation, and exchange of commodities. Its foundation is economics, just as history is the basis of political geography. In its purely national scope it cuts across the entire field of a country's economic activities, and must concern itself with the many problems arising from their increasing complexities.

AGRICULTURAL PRODUCTION

In 1938 agricultural production was near its peak for many important crops such as cotton, cereals, citrous fruits, etc. With exports restricted by many causes beyond the control of this country, low prices and surpluses above the possibilities of domestic consumption have resulted. The Federal Government's policies of crop limitation and crop control have so far failed to solve the so-called "farm problem," and it will continue as one of the foremost national problems demanding a combined political and economic solution.

The change in transportation facilities due to the ever increasing use of the motor truck, with a quick haul from field or orchard to the wholesale or retail distribution point, tends to realize the ideal of the free-trade system prevailing inside of our national boundaries, in that those regions best suited by climate and soil conditions can successfully offer from considerable distances their products in competition with those of less favored but much nearer regions. Often such local or nearby competition has been entirely eliminated. In some of the older regions where the soil is exhausted or not so productive, there has resulted a consequent depression with disturbance to the economic balance of the affected population, abandonment of an increasing area of farm land in the east, south, and more arid regions, together with impoverishment or shifting of farm population, and a general unfavorable influence on the communities concerned.

Regional planning as exemplified by the T.V.A. and similar large-scale projects represents one major attempt to solve this aspect of the farm problem. The emphasis placed by the President on the South as the "No. 1 Economic Problem" of the nation has as yet even more important agricultural than industrial aspects, because of the larger number of persons affected by possible changes in the agricultural regime of the region. The tremendous dam projects of the Western States have not as yet begun to make themselves felt by opening large areas to farming by irrigation, but they will inevitably tend to cause some migration of farm population from less favored regions. Such shifts of population cannot help but affect to their disadvantage many old settled regions in other States, and for a time at least there will be one more "new frontier" open to settlement by our agricultural population.

INDUSTRY

Some of the largest as well as many much smaller corporations have shown a continued tendency to decentralize their manufacturing activities and to establish plants in economically strategic locations where favorable conditions exist. Migration of industrial establishments from one region to another has also continued, and seems likely to continue, although the adoption in 1938 of a nationwide wage-hour law may in the end tend to check the tendency toward the Southern and Southeastern States. The older industrial States are combatting the tendency of industry to move to other regions, but this seems likely to continue so long as lower taxes, easier sources of less troublesome labor, special inducements of various sorts, nearby supplies of suitable raw materials, etc. offer sufficient advantages and the chance for larger or surer profits.

TRANSPORTATION

The geographical implications of transportation received increasing emphasis in the press and in public concern during 1938. One major claim of discriminatory freight rates was advanced as a prime factor in the special problem offered by the economic condition of the Southern States. The railway problem in general has steadily come nearer to some sort of a final showdown and to some sort of solution, drastic as it may have to be. During the past 20 years the volume of passenger traffic has been cut in half by the competition of buses, privately owned motor cars, and more recently of air services. In recent years a revival of water transportation has likewise increased freight competition, while pipe lines and ever widening networks of power lines have decreased the need of railway transportation for petroleum products and fuel. While truck transportation, to which the railways have lost the largest share of their former freight traffic, is still increasing, it nevertheless tends to be loaded with as heavy a burden of taxation and regulation as that borne by the railways, and in any final solution some adjustment will have to be made between these two main transportation factors if either is to continue to exist and prosper.

It seems probable that the country as a whole has not yet come anywhere near to being adjusted to the changes brought about in our national life by motor transportation in all its many phases. Certainly there has been no more important factor in the economic geography of the nation for the past 25 years than the ever increasing utilization of this means of transportation, with its endless ramifications and vital effects on the social, political, and economic life of the country. We are still too near to this period of fundamental change to realize fully its tremendous implications, nor are we at all near to the end of this transformation of our national ways of living.

TOURIST TRAVEL

One phase of motor transportation is the steadily increasing volume of travel for purposes of pleasure rather than of necessity. It has been encouraged by the programs of the National Parks Administration and of similar state bodies. In many places in the United States the revenue to local populations from the expenditures of visitors from the outside has become quite as important as such revenue has been for many years to numerous European countries. The social and political sides of such travel are quite as important as its financial aspect, which tends to generalize economic well-being. The City of Key West may be cited as an instance where tourist travel is expected to replace lost sources of community revenue and improve local economic conditions.

MOTOR HIGHWAYS

The year 1938 saw a revivified interest in the construction of special highways for motor use, designed to reduce the risk of accidents, decrease travel time, and in some instances to be of potentially strategic character. Considerable attention was also drawn to the desirability of a motor route through Canada to Alaska, and further progress in the construction and improvement of a through route from the southern border to the Panama Canal was reported by the countries concerned.

Much has also been done to improve existing roads through widening, straightening, reduction of grades, elimination of crossings, stronger bridges, and separation of traffic lanes. By 1939 it is anticipated that the total registration of cars and trucks will pass the 30,000,000 mark, with a maximum limit of 35,000,000. Traffic experts seem to feel that even this total might possibly be accommodated on existing highways in so far as country districts are concerned, but that urban facilities will have to be further improved to allow free flow of traffic. Undoubtedly more main trunk or super highways will have to be built if the ultimate benefits are to be derived from the use of motor vehicles, but it would appear that for the general welfare they should be economically adjusted to the solution of the railway problem.

DISTRIBUTION

The free exchange of products within the political boundaries of the United States has admittedly been one of the most important factors in national growth and development. Of recent years this free exchange—perhaps in a large measure because of the widening use of motor transportation—has tended to meet interference from the newly erected barriers at many state boundaries. In fact, one writer reported in 1938 that it was more difficult to enter some States than to cross into Canada or Mexico. One State is reported to have 66 "ports of entry," with restrictions on entry into the State and "use" or transit taxes imposed, while some 18 States either apply similar laws or have them on their statute books as possible retaliatory measures. Some cities have also adopted regulations resembling closely the European city "octroi" systems.

Such restrictive regulations are by no means new, since their elimination between the original States was one of the most urgent and least opposed purposes of the Constitution at the time of its adoption. The present movement is equally serious and its legal status, in view of the explicit provisions of the Constitution, will inevitably become an important point for determination by the Supreme Court. That a counter tendency exists is shown by the adoption of a resolution by nine governors who met at Oklahoma City in September, opposing such trade barriers and the enactment of further laws interfering with free trade.

One of the more recent developments in the use of motor transportation for trade purposes is the rise of the nomad trucker or "gypsy," as he is often called. He is not only a hauler but a roving trader who buys where the supply of any commodity is plentiful, owns his load while in transit, and sells wherever he can find a profitable market. He has been especially prevalent in the midwestern States, and since he does not haul for hire it has been easy for him to avoid the I.C.C. regulations and many state control laws. Not only lighter goods but such heavy commodities as grain, hay, lumber, commercial feedstuffs and coal are handled in large aggregate volume by such traders. Local merchants, branch elevators and branch warehouses in small communities have particularly suffered from this competition. State laws will undoubtedly in the end put some sort of order into this trading which in many instances has been irresponsible, but it is only one manifestation of the extreme flexibility and resultant uncertainty of operation of the present commercial machine.

ECONOMIC SELF-SUFFICIENCY

Recent developments in the international field will have their repercussions on some phases of our national economic geography, affecting both export outlets and possibly sources of imports. This nation, while far better provided for than other nations, is by no means self-sufficient in many important and even in some vital raw materials needed either for successful national industry or for national defense. Should the ability to continue unrestricted importation of such articles as tin, nickel, manganese, rubber, etc. become in any way menaced. changes in the extraction of some commodities from domestic sources or the finding of substitutes for them might become a necessity.

CONCLUSION

It thus may be seen that the economic geography of the United States offers many problems affecting in a vital manner our national economic health, and that the degree of success in finding solutions for them will be of great importance to our present and future national prosperity. We are relatively favored above other nations, but must find ways to derive the full potential benefits afforded by our geographical position and varied resources.

MINERALOGY AND PETROGRAPHY

By Clifford Frondel

Geological Museum, Harvard University

MINERALOGY OF THE CHUQUICAMATA MINE, CHILE

A detailed study of the mineralogy of the great copper deposit at Chuquicamata, northern Chile, and of the Quetana and Alcaparrosa mines in the same region, has been described by M. C. Bandy with the cooperation of investigators at Harvard University and the United States National Museum. The principal ore mineral at Chuquicamata, long thought to be broachanthite, is the basic copper sulphate, antlerite. This species, together with an extraordinary variety of secondary copper and iron oxysalts, has been formed by the oxidation of a primary pyrite and enargite mineralization in a granodiorite intrusion. The preservation of the relatively soluble secondary minerals is owing to the extremely arid climate. The primary sulphide ores are not worked. Altogether 76 mineral species are described, and the paragenesis and geochemistry of their formation is discussed in detail. Sodium frequently occurs in combination with copper as kroehnkite and other minerals, and appears to have been derived by circulating ground water from soluble sodium salts in the alluvium. A number of new minerals have been described from this region in recent years, and seven were discovered during the present research. The Chuquicamata mine handles about 30,000 tons of ore a day.

MINERAL SYNTHESIS

G. W. Morey and E. Ingerson of the Geophysical Laboratory, Washington, D.C. have published a detailed summary of world-wide work directed toward the artificial formation or alteration of natural silicate minerals. An annotated bibliography of 156 papers in the field, extending back to 1854, is given, together with a lengthy discussion of the theoretical principles underlying hydrothermal processes.

MINERAL OCCURRENCES IN PEGMATITES

A new occurrence of the important uranium mineral, uraninite, has been found in pegmatite near Grafton Center, N.H. The mineral, which does not occur in commercial amounts, is found in dendritic and skeletal growths in feldspar and as well-formed crystals. The lead-uranium ratio indicates an age of 304,000,000 years for the deposit. Uraninite has also been described recently from the pegmatite at Haddam Neck, Conn. The mineral occurs associated with gummite, torbernite and autunite as alteration products. An age determination by the lead-uranium ratio method gave about 290,000,000 years. This value is in agreement with results of analyses of radioactive minerals from other Connecticut pegmatites, and indicates a late Devonian age for the deposits.

The rare mineral pollucite, one of the few natural materials containing cesium in significant amounts, has been described from a pegmatite at Greenwood, Me. A second new occurrence has been found at Leominster, Mass. A new pegmatite deposit at Center Strafford, N.H. has also been described. The occurrence is notable for the abundance of phosphate minerals, especially triphyllite, fairfieldite and graftonite. Late stage hydrothermal mineralization in the pegmatite is marked by the deposition of loellingite in abundance, and by the alteration of the earlier formed phosphates.

A recently discovered pegmatite on the western slope of the Sierra Nevada in Fresno County, Calif. is distinguished by the presence of andalusite. Although this mineral is common in metamorphic terrains, its presence in pegmatites is unusual. Andalusite in igneous rocks is usually regarded as having formed from the metamorphic action of the magma on inclusions of aluminous wall rocks. The occurrence, however, is held to have been the result of direct deposition from aluminous vapors.

MINERAL FLUORESCENCE

Fluorescence in minerals has been a commonly known phenomenon for many years. During the past decade mineralogists have had access to various sources of ultraviolet radiation, such as the argon tube, and this has led to the demonstration of fluorescence in an increasingly large number of minerals, and to the awakening of widespread interest in this property of matter. A new type of instrument, affording monochromatic radiation of a higher order of magnitude than that of instruments hitherto available, has now been described. Twenty-one mineral species have been examined with the new source of radiation, and a tentative relationship established between the frequency of radiation and the frequency of the re-radiated, visible, light.

ISOMORPHISM IN THE APATITE GROUP

Compositional variation in the minerals of the apatite group is found to be considerably more complex than previously recognized. The crystal structure of apatite appears to be remarkably stable, permitting a number of rather unusual types of isomorphous substitution and involving a considerable number of ions. The apparent substitution of carbon for calcium or phosphorous in fluorapatite is unique.

NEW MINERALS

A supplementary volume to Hintze's *Mineralogy,* dealing with minerals described since the completion of the main series of volumes, has been published. The compilation of new species by Schubnikov has been completed to 1937, together with a more extensive collection of data relating to minerals not previously known. The rich deposit of borate minerals discovered in 1934 near Inder Lake, in Kazakstan, U.S.S.R. has afforded several new minerals. *Inderite* is a magnesium borate, related to inyoite, and *beta-ascarite* is an acid magnesium borate; both minerals occur associated with hydroboracite and other saline minerals. The deposit occurs in the gypsum capping of a large salt dome. *Veatchite* is a new hydrous calcium borate occurring in fibrous veins in limestone and howlite at a borate mine near Lang, Calif. Another new calcium borate, *parahilgardite,* from the Choctaw salt dome, Louisiana, is of special interest because it is the second mineral found to crystallize in the triclinic pedial class. The species is closely related to hilgardite, described from the same locality in 1937. *Moschellandsbergite* is a naturally occurring silver-amalgam corresponding to a known phase in the artificial silver-mercury system.

Yeatmanite is a antimoniosilicate found associated with sarkinite at Franklin, N.J. It is the first mineral containing antimony found at Franklin, and adds a further feature of similarity to the deposit at Langban, Sweden. A new asbestiform variety of chrysotile from the asbestos deposit of Karachai, Caucasus, is named *karachaite*. The so-called *brickerite,* from a tin mine at Lomitas, Bolivia, has been shown to be identical with *austinite*. *Leightonite* is a copper sulphate mineral, and *parabutlerite* and *sideronatrite* are iron sulphate minerals recently described from the copper deposit at Chuquicamata, Chile. *Ungemachite,* and a closely related species, *clino-ungemachite,* are other new iron sulphate minerals from this locality. *Bandylite* and *antofagastite* are secondary copper minerals found at the Quetana mine, Chile. The name *goldschmidtine,* after Victor Goldschmidt, famous crystallographer, is applied to an antimonide of silver from Andreasberg, Germany. *Johannsenite* is the manganese analogue of the monoclinic magnesian pyroxene, diopside. The mineral, which alters readily to rhodonite, has been described from nine localities. *Bidalotite* is an orthorhombic pyroxene found as an alteration product of cordierite in a metamorphic rock in Mysore. A new asbestos-like amphibole, *bedenite,* has been found in serpentine on Beden Mt., north Caucasus.

Scheteligite is a complex tantalate found in a pegmatite at Torvelona, Norway. *Chacaltaite* is an ill-defined pinite-like mineral from Chacaltaya, Bolivia. A new hydrous calcium silicate from the lovchorrite mine on Yukspor Mt., in the Chibina tundra, is named *foshallassite. Mitradatite* is an iron-calcium silicate, from a deposit of oolitic iron ore in the Crimea. The mineral occurs as an alteration product of vivianite. Aminoffite is a complex beryllium silicate, comparable to meliphane, from Langban, Sweden, where it occurs with magnetite and fluorite. Other more or less well defined new species include *manganvoelckerite* and *stibiomicrolite,* from the pegmatite dike at Varutrask, Sweden; *torniellite,* an amorphous variety of halloysite from a clay deposit at Torniello, Italy; and *hydrotenorite,* a copper oxide of colloidal origin, from the Star of the Congo copper mine, Katanga, Belgian Congo.

PUBLICATIONS IN MINERALOGY

The Mineralogy of Bolivia, by F. Ahlfeld and J. Munoz-Reyes, Berlin. 1938, 89 pp., 30 figs. A description of 171 minerals found in Bolivia. *Zeitschrift für angewandte Mineralogie,* edited by F. K. Drescher-Kaden. Vol. 1, no. 1, 1937, a new journal devoted to applied mineralogy. *Crystal Chemistry* by C. W. Stillwell. New York, 1938, 424 pp., 72 figs. The determination, since the introduction of x-ray techniques in 1912 of the crystal structures of literally hundreds of substances has led to the discovery of the important principles governing the arrangement of atoms in crystals. Crystal chemistry is the study of the laws of atomic arrangement and of the influence atomic arrangement and electronic structure have upon the physical and chemical properties of crystals. The book is the first to present a general picture of the subject in simple form. Consideration is given not only the inorganic, mineralogical or metallurgical aspects of the subject but also to the crystalline organic materials, including fibers and woods.

PETROGRAPHY

A group of studies in petrology has been published in a special supplement to the *Journal of Geology.* The volume is dedicated to Professor Albert Johannsen, who retired in 1937 from the faculty of the University of Chicago, in recognition of his long and distinguished services to this field of science. Included in the volume are papers on the Rapikivi granites of Fennoscandia, the pertrography and chemistry of rocks in the Canadian shield, the crystallization equilibria in the system nephelite-albite-silica-fayalite, the representation of rock analyses in variation diagrams, and on the origin of orbicular structures in igneous rocks.

An important constituent of the potash-rich rocks of the Highwood Mts., Montana, is a pseudomorphous substance known as pseudoleucite. Petrographic study indicates that this material is a mixture of orthoclase and nephelite formed by the unmixing of either soda-lime leucite or a potash-rich analcite, rather than by the so-called pseudoleucite reaction of Bowen (1928). Most of the pseudoleucite formed after the magmas reached their present position but before complete consolidation of the rocks. Not all of the pseudoleucite in the rocks has been replaced, and many of the extrusive rocks and some of the dike rocks contain a primary potash-rich analcite. The rocks of the region have been considered possible commercial sources of potash.

PETROGRAPHY PUBLICATIONS

Das Magma und . . . der leichtfluchtigen Bestandtheile. Part 1: *Physikalisch-chem. Grundlagen* by Paul Niggli. Leipzig, 1937, 379 pp., 328 figs. The aim of this work, to be published in two parts, is to draw from physical chemistry, petrology and geology all that those sciences can now offer towards the interpretation of the behavior of magmas. The author is one of the few living persons sufficiently well equipped for this task. *A Descriptive Petrography of the Igneous Rocks.* Vol. 4, Part 1: *The Feldspathoid Rocks.* Part 2: *The Peridotites and the Perknites,* by Albert Johannsen, Chicago, 1938, 523 pp. 180 figs. The first volume of this comprehensive treatise appeared in 1931 and the third in 1937. The completed set of four volumes is a valuable work of reference. *Le Volcan actif de l'ile de la Reunion et ses produits* by Alfred Lacroix. Paris, 1937, 279 pp., 68 pls, is an account of the active volcano of the Island of Reunion and the lithology of its rocks.

TERRESTRIAL MAGNETISM AND ELECTRICITY

By John A. Fleming

Carnegie Institution of Washington

OBSERVATORIES AND SURVEYS IN THE UNITED STATES

The five magnetic observatories of the U.S. Coast and Geodetic Survey continued throughout the year. These are Cheltenham, Md.; Tucson, Ariz.; Sitka, Alaska; Honolulu, Hawaii, and San Juan, Puerto Rico. Of these, Cheltenham is the chief Observatory and, in cooperation with the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, international magnetic standards are maintained there for the comparison of magnetic instruments used in the observatories and surveys of the United States. There is operated also at this Observatory, in cooperation with the Carnegie Institution of Washington, a cosmic-ray photographic recording meter. At the Tucson Observatory the Carnegie Institution of Washington and the Bell Telephone Laboratories cooperate with the Coast and Geodetic Survey in continuously recording atmospheric potential-gradient, positive and negative air-conductivities, and earth-currents.

During 1938, 16 complete stations were occupied by the Coast and Geodetic Survey for the determination of magnetic secular variation in the three magnetic elements. Thirty-nine determinations of magnetic declination only were made also in connection with geodetic surveys from P.W.A. funds. A portable magnetic observatory is being developed for establishment of magnetic control-stations throughout the country.

The University of North Carolina has made geomagnetic investigations in the North Carolina Piedmont, in the Northern North Carolina Coastal Plain, on a section from Myrtle Beach, S.C., to Wilmington, N.C., and from Myrtle Beach to the Santee River southward. Geological and geophysical studies were made also in the Carolina bays and the Appalachian mountain area.

The regular determinations of critical frequencies of virtual heights of E-, F_1-, and F_2-regions of the ionosphere were continued near Washington, D.C., by the National Bureau of Standards for frequencies between 0.6 and 16 mc/sec. This series of data, continuous since 1932, is of special interest because it reflects the characteristic progression of changes in the ionospheric characteristics throughout substantially a semi-cycle of solar activity.

The National Geographic Society

and Cornell University have set up a program of research on the aurora borealis. This will include measurements of height from Cornell University, Colgate University, and a third station, and spectroscopic intensity and descriptive studies from Cornell. The cooperation of many observers from the ranks of the American Association of Variable Stars, the American Meteor Society, and professional astronomers is also being extended to make visual measurements of the form, intensity, and colors of auroras, and of the times of changes in form. Three airplane lines are also sending in reports, which should insure the continuity of observation even in cloudy weather.

ARGENTINA

Dr. O. Lützow-Holm, director of the Magnetic Section of the Meteorological Office of Argentina, reports that the work during 1938 at the Pilar, La Quiaca, and South Orkneys observatories has been continued. Reduction and tabulation of hourly values of the magnetic elements are progressing satisfactorily and will be completed through 1938 during 1939. The plans for magnetic field-work approved by the Government have realized 38 stations, September, 1937 to September, 1938, including five new ones and 33 reoccupations. Atmospheric-electric records of potential-gradient were continued and absolute observations of dispersion, numbers and velocities of small ions, positive and negative, by electrometer and ion-counter were made twice a day at Pilar during 1938. New instruments are being acquired for this class of observations to operate five stations with the same program as at Pilar, observations being made simultaneously.

The San Miguel Cosmophysical Observatory (Observatorio de Física Cósmica de San Miguel) about 30 km from Buenos Aires was inaugurated Dec. 12, 1935, and is under the patronage of the National Committee of Observatories although it is the property of the Society of Jesus. The complete program includes astrophysics, geophysics, and meteorology. The Observatory not only carries on research work but disseminates its results through lectures, exhibits, and pamphlets of a popular nature.

COLOMBIA

There is at present no established magnetic observatory or survey in Colombia. Plans, however, are under way to establish in the near future a Geophysical Institute of the Northern Andes near Bogotá. This Institute will have for its main purpose the gathering, tabulating, and interpreting of geophysical data in the vast region of the Northern Andes, especially in Colombia, and at the same time it will cooperate in its scientific work with other geophysical institutions and observatories throughout the world. The program will eventually comprise seismology, meteorology, geodesy, terrestrial magnetism and electricity, oceanography, volcanology, and hydrology. A site has been selected for the building of the Institute near the suburb of La Merced overlooking the plateau and the city of Bogotá. The Institute will be unique in many ways. It will be the first of its kind in the Northern Andes of South America and one of the highest, if not the highest, in the world—2.7 kilometers above sea-level—with a mean annual temperature of 13° C and a mean barometric pressure of 560 millimeters. It will cover in its observations a very large area which has been little explored up to the present time. The Colombian Government is fully supporting the project, learned societies in many lands have hailed the establishment of such an Institute with their approval, and many scientific leaders in the geophysical sciences have given enthusiastic encouragement and full cooperation to the carrying out of the plans of the new Institute.

PERU

The Carnegie Institution of Washington continued during 1938 its Magnetic Observatory near Huancayo. The program includes continuous registrations of the three magnetic elements, of atmospheric-electric potentials, of positive and negative air-conductivities, and of earth-current potentials. Automatic records of ionospheric heights were obtained with a multifrequency recorder and of cosmic radiation with a Compton-Bennett cosmic-ray meter during 1938. This station is also equipped with a Hale spectrohelioscope, and visual observations of the Sun are made daily with it from 15^{h} 30^{m} to 16^{h} 00^{m} and 16^{h} 30^{m} to 17^{h} 00^{m} GMT—periods assigned in the world net of spectrohelioscopic stations by the International Astronomical Union.

WORLD SURVEY

Asia.—The Carnegie Institution of Washington occupied 17 stations in Malaya, Siam, Netherlands East Indies, and Indo-China during 1938. Visual ionospheric measurements were made during October, 1937 to June, 1938 at Central China College, Wuchang, China through cooperation of that College and the Institution.

Australasia.—The Carnegie Institution of Washington's Watheroo Magnetic Observatory in Western Australia continued records of magnetic and atmospheric-electric elements during 1938. It is also equipped with ionospheric and spectrohelioscopic apparatus similar to that at the Huancayo Magnetic Observatory in Peru. In cooperation with the Aerial Geological and Geophysical Survey of Northern Australia, a number of stations were established for the determination of secular variation. The Carnegie Institution of Washington occupied three stations in Australia during 1938. Visual spectrohelioscopic observations were made whenever weather permitted from 1^{h} 00^{m} to 1^{h} 30^{m}, 3^{h} 00^{m} to 3^{h} 30^{m}, and 4^{h} 30^{m} to 5^{h} 00^{m} GMT.—periods assigned by the International Astronomical Union.

Pacific Islands.—Cooperation of the New Zealand Department of Scientific and Industrial Research and the Carnegie Institution of Washington with the Apia Observatory in Samoa in the fields of atmospheric electricity and terrestrial magnetism was continued. This cooperation extended to the Amberley branch of the Christchurch Magnetic Observatory in New Zealand, where a cosmic-ray recording meter is being operated in the world net of five such stations established through the Institution's Committee on Coordination of Cosmic-Ray Investigations.

Magnetic Standards. — Magnetic standard instruments were maintained at the Cheltenham Magnetic Observatory in the cooperation between the Department of Terrestrial Magnetism of the Carnegie Institution of Washington and the United States Coast and Geodetic Survey. Comparisons of standards were made by the Carnegie Institution of Washington at the Apia, Batavia, and Watheroo observatories.

GEOMAGNETISM

Outstanding advances in magnetic investigations concern two distinct branches of the science: the rapidly varying external field and the slowly varying, so-called permanent field. A procedure was developed for separating the internal and external portions of a localized varying magnetic field observed at the Earth's surface without recourse to the use of spherical harmonics by assuming the Earth's surface to be an infinite plane and employing solutions of Laplace's equation appropriate to the case. This permits the hypothetical mapping of the magnetic field at various heights, from which cogent inferences may be drawn regarding the location of the processes giving rise to the magnetic effects. Further attention was devoted to the theory to account for auroral-zone features of magnetic disturbance and for the average characteristics of magnetic storms in polar regions.

The average world-wide changes in the Earth's field during magnetic storms, additional to those present on magnetically quiet days, have been investigated, using the extensive new data of the International Polar Year, 1932–33. The average characteristics of disturbance given by observation were shown to be in good qualitative and quantitative agreement with the world-wide atmospheric-electric current-system of magnetic storms as proposed by Chapman. If these electric currents flow in closed circuits in the atmosphere, their height is deduced as roughly 100–150 km. The electric current-system proposed by Birkeland was shown to be inconsistent with observation in several important respects. In low latitudes of the Earth it is also possible that the storm-time variation is due mainly to an encircling ring-current in the equatorial plane, in which case its radius computed from the magnetic data was found to be about two to four times that of the Earth.

Since the average characteristics of magnetic storms asymmetrical relative to the centered dipole of the Earth's magnetic field appear with highest intensity in the region very near the auroral zone, the magnetic data were used to give a new and improved determination of the geographical position of this zone. The auroral-zone curve of terrestrial magnetism in north polar regions, is oval, almost elliptical, and shows asymmetry relative to the centered dipole. It agrees roughly with the curve of maximum auroral frequency as derived by Fritz.

The year 1937–38 was of unusual interest for the study of solar and terrestrial relationships, and of the relations between terrestrial magnetism and other phenomena, such as cosmic radiation. In a steep increase since the last sunspot-minimum of 1933.8, solar activity, as expressed by the relative sunspot-numbers, reached 114 in the annual mean for 1937, a value which exceeds considerably any annual mean since the high sunspot-maximum of 1870. The intensity of magnetic disturbance followed this increase, and the year 1937 appears to have been the most active year for over 60 years, although no individual storm of outstanding intensity occurred in 1937. January, 1938, on the other hand, was marked by three successive storms. A violent magnetic storm of exceptional character on April 16, 1938, was preceded 21 hours before by an exceptional eruption observed on the Sun's surface. Because of the well-known lag of magnetic behind solar activity, it is quite likely that the lull of magnetic disturbance experienced in June, 1938 will be only temporary, and that the harvest of magnetic storms for the study of their general features will increase in 1939.

The final u-measure of magnetic activity 1935 and 1936, and preliminary values through April, 1938, were computed. Three storms in January, 1938 gave the high value $u=2.74$, while the annual mean of 1937 reached 1.38; this exceeds the highest annual values of u reached during the last five sunspot-maxima. This variable intensity of the maxima in the 11-year cycle has a counterpart in the different degrees of terrestrial-magnetic quietness reached during sunspot-minima.

Magnetic investigations under the direction of Professor Lachlen Gilchrist of the Department of Physics of the University of Toronto were made in a region in Canada containing extensive masses of sedimentary limestones without the presence of basic rock materials and therefore probably free from magnetic anomalies set up by massive or disseminated magnetite. Gas, oil, and saline water were to be found in the porous dolomite. Making use of the value of the permeabilities of water, rock-salt, petroleum, and dolomite, calculations were made of the values of the vertical component of the intensity of the Earth's field in the neighborhood of a gas-producing field. Measurements of the vertical components of intensity were then made to which were applied corrections for carefully measured hourly variations and for computed values of variations in intensity with latitude. The measured results showed that the values of the variations from the chosen normal value of the vertical intensity were somewhat larger than the calculated values and made evident the great desirability of extensive magnetic investigations of this character.

The weekly magnetic character-figures (C_A) for each Greenwich half-day at the seven American-operated observatories at Watheroo, Huancayo, Cheltenham, Honolulu, San Juan, Sitka, and Tucson have been compiled since January, 1937 with the cooperation of the U.S. Coast and Geodetic Survey and are published weekly through *Science Service*. Statistical examination of these data shows this character-figure to be a precise measure and to represent world-wide conditions with relatively high fidelity.

ATMOSPHERIC ELECTRICITY

Studies of the atmospheric-electric data obtained on Cruises IV and VI of the *Carnegie* indicated that there was a gradual increase in gradient of approximately 17 per cent from the equatorial regions to either north or south latitudes of 50°. Comparisons of measurements of air-conductivity and of cosmic radiation in the free atmosphere to an altitude of 22 km, as well as experiments in the laboratory in 1938, strengthen confidence in calculations of air-conductivity from observations of cosmic-ray intensity based on theoretical relationships. Such calculations by Gish and Sherman have been made for the region from the surface of the Earth to great altitudes, based on cosmic-ray data recently obtained in different latitudes. They predict a greater value of the total resistance of a vertical column of atmosphere at the equator than in a 50° latitude which is quantitatively consistent with the latitude-variation of gradient deduced from the *Carnegie* data. It appears that the factors which cause the cosmic radiation to vary with altitude in a different manner in different latitudes also cause the observed dependence of surface-gradient upon latitude.

A further question as to possible solar influences on atmospheric-electric phenomena arose from interpretations by Gish and Sherman of the conductivity-data obtained on the flight in the stratosphere of the balloon *Explorer II*. Apparently condensation-nuclei occurred in negligible quantities from 6 to 18 km but that from 19 to 22 km, their effect was considerable. At the height of 22 km the conductivity observed was less than half the value expected in air free from nuclei. Recent experiments show that nuclei and large ions are formed in air in the laboratory simultaneously with the formation of ozone by ultra-violet light from a quartz mercury-vapor lamp; thus speculation arises as to the significance of the observed ozone and low conductivity occurring together at great heights. With present knowledge the quantitative effect of nuclei at pressures corresponding to such heights may not be calculated, although theoretical considerations indicate that for nuclei of a given size their effect in reducing the conductivity would be greater at high altitudes because of the increase in the combination-coefficients between small ions and nuclei due to the decreased pressure.

The application of statistical methods by Wait and Mauchly to a study of 12 yearly values of potential-gradient from each of three observatories indicates some significant universal variation.

GEOELECTRICITY

The investigation of the lunar diurnal variation in earth-currents was continued, using the records from Tucson and Huancayo for the year 1932. The monthly mean lunar diurnal variation was found to be quite definitely semidiurnal in character and its amplitude was found to be less than one magnitude smaller than that of the solar diurnal variation. Harmonic analyses show that the amplitude of the predominant second harmonic is about one-sixth that of the solar diurnal variation at Huancayo and about one-fifth that of the solar diurnal variation at Tucson. The form of the mean curves is the same for both the equatorial station, Huancayo, and the middle-latitude station, Tucson. In this respect they differ markedly from the curves of solar diurnal variation.

The manner in which the lunar diurnal variation changes with the phase of the Moon was also examined. Both components at Huancayo show a marked increase in activity during daylight hours and a corresponding diminution during the night, so that the curves constructed for a given phase of the Moon are no longer of a simple semidiurnal character. These changes are similar to those found in the corresponding curves for the magnetic elements. The Tucson data indicate that there is less difference between conditions during day and night affecting lunar diurnal variation at this middle-latitude station.

COSMIC RADIATION

Worldwide decreases of three to five per cent in daily means of cosmic-ray intensity were found by S. E. Forbush to be associated with changes in the Earth's magnetic field during two major magnetic storms; other magnetic storms of equal intensity occurred with no appreciable cosmic-ray effects. Thus it appears that the entire current-system for the storm-time field of both types of storms can not be located at the same distance above the Earth. A significant correlation between changes in daily means of cosmic-ray intensity for two stations separated 50° in latitude probably results from the mechanism responsible for the magnetic-storm effect. Statistical analyses of the cosmic-ray records obtained at Cheltenham and Huancayo proved inadequate to establish a sidereal diurnal variation in cosmic-ray intensity.

Analysis by S. E. Forbush of all available data from Cheltenham, Teoloyucan, Christchurch, and Huancayo shows that the major changes in 10-day means of cosmic radiation are all worldwide. The correlation between the worldwide changes at different stations was found high enough to provide important information regarding their variation with latitude and altitude. It seems impossible to explain the annual waves found at these stations in terms of a solar magnetic moment.

In the study of cosmic-ray intensity at high elevations T. H. Johnson spent some time in Minnesota and Canada. At Swarthmore, in collaboration with S. A. Korff, he further developed single-counter measurements of cosmic-ray observations at high elevations. The technique was greatly enhanced by the development of a radio barograph suitable for balloon flights. He further improved the coincident-counter recording of cosmic-ray intensity. The further analysis of geomagnetic cosmic-ray effects shows the field of cosmic-ray measurements at sea-level to be produced by primary radiations, approximately 100 per cent positive.

S. A. Korff, in cooperatioin with the National Bureau of Standards, effected improvement in instrumental appurtenances for high-altitude observations. He has given further attention to the study of the longitude-effect from the counter observations made on flights in Peru and found it to be about 25 per cent at the point of maximum cosmic-ray intensity in the stratosphere as compared with about 4 per cent at sea-level as found by R. A. Millikan.

R. A. Millikan and his associates at the California Institute of Technology made substantial contributions in cosmic-ray investigations, including studies (1) on the total cosmic-ray energy entering the atmosphere at different latitudes, (2) on the discovery by cloud-chamber technique of penetrating charged particles of intermediate mass between electrons and protons, and (3) on development of a Geiger counter of high resolution for cosmic-ray meter.

IONOSPHERE

Isolation of the radio fade-out effect in a particular region of the ionosphere was accomplished, using the powerful automatic multifrequency technique. The ionization in the outer atmosphere produced by the ultra-violet light emanating from the bright chromospheric eruptions is absorbed almost exclusively below the level of about 90 km. This constitutes strong confirmatory evidence that the electrical currents causing the diurnal variation in the Earth's magnetism must flow below this level. That the ultra-violet radiation from the bright eruptions on the Sun is not absorbed in the higher regions of the outer atmosphere in passing through them is new evidence of the physical constitution of these regions, and of the processes producing ionization in them. This provides a new approach to the study of physical problems of the outer atmosphere and of the Sun.

Continual recording of the electrical state of the outer atmosphere is now an accomplished fact at the magnetic observatories of the Department of Terrestrial Magnetism at Huancayo and at Watheroo. Installation of the automatic multifrequency equipment represents the culmination of a long period of research and development by the Department to make possible a complete record of ionospheric fluctuations. Thus the ionosphere—the region of transition in which many solar effects are translated into observed geophysical phenomena—is now under continuous observation.

AURORA

The determination of auroral activity in the great majority of cases has been done by visual estimation and the results expressed in terms of some arbitrary scale. While furnishing valuable data, this is not an altogether satisfactory method where quantitative knowledge of variations of auroral intensity as a function of the time are desired. A simple and rapid method for measuring this variation was developed by Professor L. B. Snoddy of the University of Virginia, using a modified Lummer-Brodhum photometer. The variations are measured by a change in position of a comparison source or by the use of a neutral wedge. Suitable filters enable changes in any spectral range to be followed. Both the activity in isolated regions and the general activity can be measured.

Observations were made by Professor Snoddy at Churchill, Canada during August and September, 1938. The most noticeable features of the records during an auroral storm are the continued increase in backgound sky luminosity and the extremely rapid changes in brightness as the maximum of the storm is approached. After this maximum, when distinct auroral forms have practically disappeared, this background luminosity decreases very slowly, taking from ten to 30 minutes to approach the sky luminosity at the start of the storm. It seems possible that this slow variation of background ionization might be connected with the long duration of the magnetic perturbations sometimes observed on records taken during auroral storms.

PUBLICATIONS

The manuscript for a manual on *Terrestrial Magnetism and Electricity* as Volume VIII (some 700 pages) of the National Research Council's series "Physics of the Earth" was prepared by 14 competent investigators under the direction of a committee selected by the Council. It is to be published for the Council by the McGraw-Hill Book Company early in 1939. It summarizes what is known regarding terrestrial magnetism and electricity and the direction in which further research is and may be profitably directed. The aim is to provide references which may stimulate and enlist the interest of a larger group of investigators and prospective students, as well as the general reader, in the complex and elusive fields presented.

In addition to the leading articles bearing on the subject of geomagnetism which have appeared during 1938 in the forty-third annual volume of the quarterly *Journal of Terrestrial Magnetism and Atmospheric Electricity* published by the Johns Hopkins Press, the following published by the Carnegie Institution of Washington in a memorial volume entitled *Cooperation in Research* are of interest to the general reader: "The general magnetic field of the Earth and its secular variation" (pp. 205–221) by J. A. Fleming; "The ephemeral variations of the Earth's magnetism" (pp. 223–247) by L. V. Berkner and A. G. McNish; "Magnetism and the atomic nucleus" (pp. 161–181) by M. A. Tuve, L. R. Hafstad, and N. P. Heydenburg; "Solar and terrestrial relationships" (pp. 103–114) by S. B. Nicholson; "Universal aspects of atmospheric electricity" (pp. 183–203) by O. H. Gish.

The *Transactions* (two parts, 745

pages) of the American Geophysical Union for 1938 include papers presented at its nineteenth annual meeting in Washington and at the regional meetings of its sections. The numerous articles and reports give a good view of geophysical work in progress in North America.

The United States Coast and Geodetic Survey continued the preparation of results at its magnetic observatories for publication. Among the Survey's publications of special interest are the following: *United States Magnetic Tables and Magnetic Charts for 1935* (Serial Publication No. 602) by H. H. Howe and D. G. Knapp; *Directions for Magnetic Measurements* (third edition, Serial Publication No. 166) by D. L. Hazard.

The thirty-fifth Annual Report of the Director of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington issued Dec. 9, 1938, outlines that Department's geomagnetic and geoelectric work done during the year ended June 30, 1938, and is accompanied by a complete bibliography of published papers.

METEOROLOGY AND CLIMATOLOGY

By Robert G. Stone

Blue Hill Observatory of Harvard University

NEW WEATHER BUREAU CHIEF

Death took from the Weather Bureau on Sept. 14, 1938 its progressive chief, Dr. W. R. Gregg, who had been able to lead impressive improvements in the Bureau's work during the few but difficult years he had served. Commander F. W. Reichelderfer of the U. S. Navy, an experienced meteorologist and specialist in forecasting for lighter-than-air vessel operations, was appointed Chief of the Bureau in succession to Dr. Gregg. Commander Reichelderfer introduced modern methods (air mass analysis) into the Navy meteorological service in the 1920's.

ISENTROPIC ANALYSIS

Daily isentropic analysis of the upper-air weather map (see The American Year Book, 1937, p. 716), which was introduced by Rossby and Namais of the Massachusetts Institute of Technology in 1937 and 1938, has now been adopted by the meteorological services of several of the commercial airlines, by the research division and some of the field offices of the Weather Bureau, and by other meteorologists in this country. While this work is still in an experimental stage in many respects, it has apparently been found of sufficient assistance or promise in routine forecasting work to warrant this rapid adoption. It is also being followed with great interest by prominent meteorologists abroad.

A monograph, *Fluid Mechanics Applied to the Study of Atmospheric Circulations,* published in December by the Massachusetts Institute of Technology, gives results of studies made in cooperation with the U. S. Department of Agriculture under the Bankhead-Jones Research Fund; therein Professor Rossby reports some brilliant theoretical results of the application of his principle of lateral (isentropic) mixing to the problem of explaining the belt of westerly winds of the middle lattitudes. The report also includes treatises on the technique, with examples of isentropic analysis by J. Namais and R. G. Simmers, which will undoubtedly have a great stimulating influence on meteorological research and practice in the next few years. This work won for Mr. Namais the Meisinger award for aerological research of the American Meteorological Society. H. R. Byers and C. H. Pierce of the Weather Bureau also published contributions to the technique of isentropic analysis (*Mo. Wea. Rev.,* March and Sept., 1938).

THE RADIOMETEOROGRAPH

The radiometeorograph was generally adopted in this country in 1938 for routine upper-air soundings, of the 23 stations making daily soundings, nine were using this new method instead of airplane-carried meteorographs during the second half of the year. Further developmental improvements are being pushed, however, and will be necessary before any of the radiometeorograph makes will be fully acceptable; they reach great heights in all kinds of weather, but are not yet of unquestionable accuracy. Many more stations, each making more soundings per day than at present, would be desirable as soon as possible. The electric hygrometer devised by Dunmore of the Bureau of Standards seems a promising improvement for radiometeorographs.

OTHER METEOROLOGICAL DEVELOPMENTS

Considerable interest was evinced in attempts to apply air mass analysis to tropical weather maps and tropical hurricanes (see articles in *Bull. Amer. Met. Soc.,* Feb., June, Oct., Nov., 1938).

In practical aeronautical meteorology there were a number of developments such as the increase in amount of weather observations furnished over the airways teletype circuits, the invention of geostrophic-wind dividers for computing winds from the weather map by Spilhaus of New York University, two systems of computing upper-air temperature and wind fields when actual data is limited announced by Vernon of the U. S. Weather Bureau and George of Eastern Air Lines, and several studies of weather conditions leading to ice formation on airplanes, though more thorough studies of the physical processes involved seem necessary.

Studies of ozone variations in the stratosphere by Coblentz of the Bureau of Standards, O'Brien of Rochester, and Pekeris of Massachusetts Institute of Technology were underway. Elsasser of the California Institute of Technology is making fundamental studies of water vapor absorption of solar radiation in the atmosphere.

American meteorologists look forward to playing host to the prominent foreign meteorologists who will attend the meetings of the International Geophysical Union in Washington in September, 1939 and the joint meeting of the Royal and American Meteorological Societies in Toronto in August, 1939.

CLIMATOLOGY

In the field of climatology two publications of note appeared: A. J. Connor's *Climates of Canada* (Berlin, 1938) and the report of the American Committee of the International Commission of Climatic Variations to the International Geographical Congress which met in Holland, July, 1938 (*Bull. Am. Met. Soc.,* May, 1938, 64 pp.).

A valuable summary of the Weather Bureau's years of research on solar radiation was published by Hand in the *Monthly Weather Review.*

The relation of weather to radio transmission, especially on the shorter waves, was rather definitely demonstrated experimentally by Friend of the West Virginia University and by Englund of the Bell Telephone Laboratories (see *Bull. Am. Met. Soc.,* Sept. and Oct., 1938).

The relations of sunspots to terrestrial conditions was summarized in a book by Stetson (*Sunspots and Their Effects*).

Three texts on synoptic meteorology appeared: Taylor's *Aeronautical Meteorology;* the 4th revised and enlarged edition of Namais' *Introduction to the Study of Air Mass Analysis,* probably the most widely read text of its kind; and the chapter on Meteorology by Professor Petterssen of Norway in Weem's *Air Navigation,* second edition. These will greatly help the longstanding needs of meteorological education.

A detailed study by Dorsey of the Blue Hill Observatory (Harvard) showed how local forecasts of rain or snow at Boston could be improved by use of the current Mt. Washington Observatory reports.

On the physics of condensation and precipitation, Houghton of Massachusetts Institute of Technology is pursuing some fundamental studies, and Landsberg of Pennsylvania State College published an extensive summary of knowledge about nuclei of condensation.

Professor C. F. Brooks of Harvard prepared a very thorough summary of the problem of measuring precipitation, especially snowfall (*Transactions* of the International Commission of Snow, 1938).

The destructive hurricane that struck New England in September caught both the public and many meteorologists unaware. Articles by Brooks (*Geogr. Review,* Jan. 1939) and Tannehill (*Mo. Wea. Rev.*, Oct. 1938) show, however, that such storms occur there about once or twice a century and that this storm was more unusual for its tropical intensity so far north than for the inland track it took. More detailed studies of the storm will soon appear.

AMERICAN EXPLORATION

By Robert M. Brown

Professor, Rhode Island College of Education

POLAR

The Louise A. Boyd Expedition of 1938 continued the work along the Eastern Greenland coast which was begun in 1931 and continued in 1933 and in 1937. Unusually favorable ice conditions enabled the *Veslekari,* Norweigan sailing ship, to reach 77° 50′ North, within 30 miles of the record latitude reached by vessels along the East Greenland coast made by the *Belgica* in 1905. In addition to the work on the Greenland coast between Clavering Island and the Isle de France, which consisted of detailed soundings and surveys in the fiords, soundings were made in the Greenland Sea between Jan Mayen and Northern Spitzbergen (81° 30′ N) and the Greenland coast. During 1937, the expedition discovered a submarine ridge about midway between Bear and Jan Mayen islands, apparently about seven nautical miles long and one mile wide rising at one joint to within at least 310 fathoms of the surface of the sea.

Capt. Robert A. Bartlett sailed from New York on June 20 on the *Effie Morrissey* for his 12th annual expedition to Greenland. Specimens will be collected for the Smithsonian Institution and for the Cleveland Museum of Natural History. Water conditions and temperatures will be noted for the Hydrographic Bureau in Washington.

Commander Donald B. MacMillan left Boothbay Harbor, Me., June 25 on the auxiliary schooner *Bowdoin* for his 17th Arctic expedition. The habits of Arctic birds were studied with the aid of a moving picture camera, and, in addition, unknown harbors, the geology of Labrador, and the advance and retreat of glaciers were mapped.

ALASKA

Harvard-National Geographic Society expedition obtained a large number of photographs and data from airplane flights of Alaska's blank spot on the map lying inland from Juneau. The area is in a bowl of mountains and is called the greatest area of glacial ice known outside the Polar regions. Before the use of airplanes, the region was very difficult to reach and impossible to cross.

Dr. Aleš Hrdlička of the Smithsonian Institution left Washington during May, 1938, for his seventh expedition to Alaska and the Aleutian Islands.

Richard K. Mellon led the Mellon-Yukon Expedition of the American Museum of Natural History to collect white sheep in Donjek Valley of the Yukon. He was accompanied by

Robert H. Rockwell, preparator of the Department of Arts and Preparation. Later Rockwell joined Wilton L. Smith who, with G. F. Mason, were collecting Alaskan moose in Kenai peninsula.

NOVA SCOTIA-LABRADOR

Michael Lerner conducted the Second Lerner Expedition of the American Museum of Natural History to the swordfish grounds of Louisburg, Cape Breton Island, to continue the work begun in 1936 at this place and 1937 at Bimini, Bahama Islands. The investigation covered the habits of the marlin, tuna and the sail-fish. It is supposed that some of these breed off the west coast of Africa and migrate in great numbers to the colder Atlantic waters off North America.

Jacques Francine of the Academy of Natural Sciences, Philadelphia, lived four months during the late winter and spring of 1938 with a party of Swampy Cree Indians in the inaccessible wilderness of the Labrador Peninsula collecting mammals. He and Paul Millard, a French trapper, were flown by airplane some 500 miles north of Quebec during the middle of March. Arriving at the Cree's encampment, they shared with them the hardships of short rations and 40 below zero blizzards until the spring thaw made it possible for the group to migrate by canoe down the unmapped Kowashamiska River south to the Hudson Bay Post.

John R. Miller left during July for Nova Scotia where he is making studies and collecting material for the Department of Botany, Field Museum, Chicago. The main object is material for an exhibit representing the submerged vegetation of the northern Atlantic waters. Owing to the excessive fall in tides in the Bay of Fundy it is expected that this will be an exceptionally favorable locality for collecting the kelps and other marine plants it is proposed to show in one of the new ecological groups in the Hall of Plant Life.

CENTRAL AMERICA

Paul C. Standley of the Field Museum, Chicago, left in November, 1938 for a botanical expedition to Guatemala. He planned to spend approximately five months in the field, gathering herbarium materials for use in preparation of a volume on the flora of Guatemala. The country's vegetation is more varied in type than that of any other Central American country. It includes alpine meadows, mountain forests of pine and fir, much rain forests where orchids and other epiphytes abound, and an extensive cactus desert. It is planned to visit as many as possible of these distinct regions with the expectation of obtaining many plants new to this country and some that are quite new to science. The expedition is sponsored by Sewell Avery of Chicago.

William Beebe completed the 26th expedition for the department of tropical research of the New York Zoölogical Society. With three of his staff he was met at San Diego by Templeton Crocker on board the yacht *Zaca* placed at the disposal of Dr. Beebe for the winter. The study of the shallow water and deep fishes down to a mile or more began at Manzanillo and continued slowly southward along the coasts of Mexico, Guatemala, El Salvador, Nicaragua and Costa Rica to Panama. Particular attention was paid to whale sharks, which are abundant in certain places, and the specific relationship between Atlantic and Pacific fish. As before, concentrated work was carried on in a few rich places.

On the way south the expedition stopped at 40 bays, large and small, and from one to ten days were spent in each. Many of the smaller bays have a geographical isolation which gives them peculiar interest, almost insular in character. The extreme difficulty of reaching the majority by land lends especial value to the opportunity of studying them for considerable lengths of time while living close in-shore on the *Zaca*. The gradual change southward in the land flora and fauna, from absolute desert conditions in Lower California to typical, tropical rain forest such as that at Golfito, was studied, and the shift from clear sea-water in the north to more silted bays fed by fresh-water streams provided a host of unexpected problems. Especial attention was paid to the life-histories of the Brachyura, and elaborate notes were made on upwards of 200 species. Over 100,000 individual fish were examined on the decks of the *Zaca*, representing a generous percentage of the total species in this faunal area. Twelve hundred photographs and several hundred colored paintings were obtained.

SOUTH AMERICA

Emmet R. Blake, assistant curator of birds, Field Museum, Chicago, left Georgetown by air to a base 600 miles inland on the southern boundary of British Guiana close to the frontiers of Dutch Guiana and Brazil and near the headwaters of the Corentyne River. The region, which is uninhabited and almost inaccessible except by air, is to be worked for a representative collection of its vertebrates including birds, mammals, reptiles and fishes. The region is especially interesting because, during its work of the past few years, the British Boundary Commission discovered a range of mountains hitherto unknown. These have an altitude of about 5,000 feet. Consequently, without doubt, the birds, mammals and reptiles of the region will show significant differences from those which were collected in the lowlands of British Guiana by Blake on his expedition last year. Blake returned in January, 1938 after a year's absence from a previous expedition in the lowland region of British Guiana and the plains of Brazil.

Dr. T. H. Goodspeed, professor of botany, University of California, is leading an expedition to the Southern Andes, to collect and study the nicotiana of South America and to collect flowers and plants for American gardens and parks. The party will work southward from Buenos Aires, through the pampas of Patagonia to Tierra del Fuego, then northward by the Straits of Magellan to the Chilean Lakes region. Dr. Goodspeed was the leader of the expedition of the university into the same regions in 1935 and 1936. The present expedition will be financed by an anonymous donor and by the California Garden Clubs, Inc.

Dr. B. E. Dahlgren, chief curator of botany at the Field Museum of Natural History, has returned from a brief visit to northern Brazil. He brought material required for the preparation of proposed dioramas showing groups of tropical plants in scenes reproducing their native habitats. Studies and collections were made of palms and other plants in the State of Para along the Amazon and Tapajoz Rivers. Besides plant material, he obtained an extensive series of photographs which will guide the preparators in reconstructing the South American landscapes and preparing the ecological groups of plants, which are to be features of the Hall of Plant Life.

M. A. Carriker Jr. and Gordon Howes of the Academy of Natural Sciences, Philadelphia are studying bird migrations and bird distribution in Bolivia.

Dr. Wendell C. Bennett of the American Museum of Natural History, New York, has returned from a six months trip to northern Peru. Near the present town of Huarez in Santa River valley at an altitude of 10,000 feet he uncovered dwelling places, temples, pottery and so on of a civilization which is the oldest known in Peru.

H. S. Scarritt, sponsor, and George G. Simpson, leader, of the Scarritt Venezuelan Expedition of the American Museum of Natural History, New York, were in northern Venezuela to collect fossils in the rich and heretofore almost untouched prehistoric beds of that region and to establish the migration habits of early mammals.

PACIFIC OCEAN

Capt. G. Allen Hancock returned during March from the seventh Hancock Pacific Expedition with large collections of marine invertebrates, fishes, reptiles, birds, and mammals as material for research in the various institutions which have collaborated with the Hancock Expeditions. The 1938 expedition sailed from Los Angeles in January, and did dredging and shore collecting as far as Costa Rica. The party visited Cocos Island and Tower Island in the Galapagos group, then followed the coast of South America as far south as San Juan. A great many specimens were collected which included a wide range of living animals, reptiles, fishes, birds, mammals and invertebrates, the latter mostly marine.

AFRICA

William D. Campbell, field representative of the American Museum of Natural History, sailed on the Italian liner *Conte di Savoia* Aug. 6. He planned to make a six-months' expedition to Africa to collect specimens to be added to groups in Carl Akeley African Hall at the Museum. Members of the party were Major W. V. D. Dickinson and Robert Kane, of the Department of Arts and Preparations, who will assist in preservation of specimens and the preparation of backgrounds for the habitat groups. The party will start at Nairobi in Kenya, move across Uganda, the Belgian Congo and French Equatorial Africa to the Cameroons. They will collect specimens of the brillantly colored mandrill, a member of the baboon family, and in French Guinea the rare black-faced chimpanzee. In addition the American Museum has the Snyder African Expedition and the Vernay Rhodesia Expedition in the field collecting for the Akeley African Hall. The former expedition is working the Teita District, Kenya Colony, in British East Africa; the latter the Upper Zambesi Region.

The Gregory-Hellman Transvaal Expedition of the American Museum of Natural History has returned from South Africa where it has been engaged in collecting material for the Hall of Man, and also fossil reptiles. The expedition pursued field and museum studies of fossil anthropoids about Pretoria; studies of Australopithecus about Johannesburg; and later the *Cynagnathus* zone near Burghersdorp where the highest mammal-like fossil reptiles are found.

EAST INDIES

The Archbold Expedition of the American Museum of Natural History, New York, is collecting birds and mammals in Netherlands New Guinea. The party has established a semi-permanent camp near Lake Habbema, 11,000 feet above sea level, and is preparing to remain for one to two years.

Dillon Ripley of the Academy of Natural Sciences, Philadelphia, has returned from Dutch New Guinea, one of the last frontiers of undisturbed wild life, with a large collection of zoölogical materia, including birds, shells, plants and fish which he collected while a member of the Denison-Crockett Expedition to the southern Pacific.

ASIA

Mr. and Mrs. Sidney J. Legendre, sponsors and leaders of the Legendre Iran Expedition, are collecting large and small mammals and birds in the Elburz Mountain area in Iran. They are seeking especially the central Asiatic tiger which lives here, besides sheep, ibex and other mammals.

OCEANOGRAPHY

By Paul C. Whitney

United States Coast and Geodetic Survey

ATLANTIC OCEAN

Ice Observations and Patrol Service.—The United States Coast Guard continued the patrol of the North Atlantic steamer routes between Europe and North America in the vicinity of the Grand Banks. Dynamic topographic charts were drawn, referred to the 1,000 decibar surface, although at most of the oceanographic stations the temperature and salinity measurements extended to a depth of 1,400 meters where the depth of water permitted. In this work 268 stations were occupied. A section was run south from the Tail of the Grand Banks across both the Labrador and Atlantic Currents as far south as latitude 37° N. On this section temperature and salinity measurements extended to a depth of between 2,000 and 3,000 meters. Other stations were occupied at which serial temperature and salinity observations were made from the surface to the bottom, located from South Wolf Island to Cape Farewell; longitudinal section from above to Davis Strait Ridge and on that Ridge from "West Ice" to Holsteinsborg. Samples were collected for the determination of dissolved helium and oxygen from the longitudinal section and from three stations between South Wolf Island and Cape Farewell. On the post-season cruise 461 fathometer soundings were taken along the sections named above. These soundings have been supplied to the U. S. Hydrographic Office and to the International Hydrographic Bureau. A continuous sonic sounding section was made along the continental shelf from Davis Strait to the Strait of Belle Isle.

Tide Observations and Hydrographic Surveys.—Along the coast from Maine to Florida 26 primary tide stations are maintained in operation by the Coast and Geodetic Survey for the purpose of hydrographic control, tidal research, and the determination of changes in the sea level. Contributions by the Coast and Geodetic Survey to knowledge of the ocean bottom included some 15,000 miles of sounding lines southeast of Long Island, extending to, and in some cases beyond, the 1,000-fathom curve. Detailed hydrographic surveys were made of inshore areas in Chesapeake Bay and Buzzards Bay, and in Florida in the St. Johns River and Key West areas. A comprehensive wire dray survey of about 40 shoal areas was made along the Atlantic Coast between Sandy Hook and Cape Henry.

The Hydrographic Office of the United States Navy conducted a hydrographic survey of Boca Grande, main entrance to the Orinoco River and approaches. Precise astronomical determinations for latitude and longitude were made at two locations in the area. Hydrographic surveys are underway along the north coast of Venezuela and off-lying islands from Guarapotura Point to the mouth of the Unare River.

The *Atlantis* of the Woods Hole Oceanographic Institution has spent a large percentage of her time on the Montauk Point-Bermuda section. The chief objective of this investigation, which is being conducted in cooperation with the Bermuda Biological Station, is to learn whether or not the long period fluctuations of the Gulf Stream are of sufficient magnitude to be an important factor in the fisheries or climate of the northeastern North Atlantic. It has now been demonstrated that the current exhibits a well marked seasonal cycle and it is planned to continue routine observations, during the next few years at least, to obtain data on the possible trends of longer periods. The investigation is also supplying important information on the way in which energy is absorbed and dissipated in this great current system.

In the course of this comprehensive physical program, an extensive series of plankton hauls have been secured from the principal water-masses found between this coast and Bermuda. The *Atlantis* also, during the winter of 1938, carried through a six-weeks' bottom dredging program in the neighborhood of Cuba.

Several important advances have been made recently in the development of instruments. A new type of continuously recording, electric current meter has been perfected. The Spilhaus bathythermograph has been further improved and a new type of multiple water-bottle, which is operated by pressure and is, therefore, independent of wire angle, has been built.

PACIFIC OCEAN

Hydrographic Surveys.—Original basic surveys of the coastal waters of the Pacific coast of the United States were completed during the year by the Coast and Geodetic Survey. A wire drag survey disclosed some 60 or more shoal areas, several of which were of importance to navigation.

Extensive hydrographic surveys were continued along the Alaskan Peninsula from Unimak Island to Umnak Island.

During the year, thousands of sonic soundings were observed by vessels of the U. S. Navy while *en route* over unsounded areas in the Pacific Ocean.

By request of the Secretary of the International Congress on Geography which met in Amsterdam in July, 1938, the Hydrographic Office prepared a bathymetric chart describing the configuration of the South Pacific Ocean. This is one of the first attempted complete delineations of that ocean.

Tide Observations.—Fourteen primary tide stations were maintained in continuous operation by the Coast and Geodetic Survey from California to Alaska and one at Honolulu. Besides furnishing the necessary data for hydrographic surveys, the results of these observations are of basic importance in tidal research and in the determination of relative changes in elevation of land and sea.

In January, 1938 the *E. W. Scripps,* the new research vessel of the Scripps Institution of Oceanography, was placed in commission and, during the year, twelve cruises were completed. On six of these cruises repeated surveys of hydrographic and certain features of the biological conditions were made over an area between San Diego and Port San Luis. On each cruise about 30 stations were occupied. The six other cruises were undertaken for the purpose of making submarine geological studies in connection with submarine valleys.

In the laboratories at La Jolla, studies of the data from the ocean and experimental work in marine biology were conducted along the same lines as in previous years.

The Oceanographic Laboratories of the University of Washington continued oceanographic investigations in Puget Sound, Straits of Juan de Fuca, and certain fiords on the western coast. These studies included the determination of the radium content of bottom samples in the northwestern Pacific, complete spectral analysis of submarine solar radiation, and variations in the co-efficients of the viscosity of sea water. In biochemical studies, considerable attention has been given to the composition, digestion, metabolism of marine life, and the study of pigments in certain marine organisms. Seasonal studies of physical and chemical properties of sea water and phytoplankton in the Straits of Juan de Fuca, San Juan Archipelago, and Puget Sound were continued during the year.

Through the aid of government-sponsored projects, work was commenced by the U. S. Hydrographic Office on the compilation of ocean current and sea surface temperature charts which will eventually cover all the oceans.

GULF OF MEXICO

Five primary tide stations were in operation by the Coast and Geodetic Survey. This survey completed 17,000 miles of sounding lines along the Texas coast from the beach to beyond the 100-fathom curve. The work continues a definite plan of hydrography throughout the Gulf area of the United States.

ARCTIC OCEAN AND BERING SEA

Three representatives of the Oceanographic Laboratories of the University of Washington accompanied the United States Coast Guard Cutter *Northland* on a cruise of Bering Sea and the Arctic Ocean to Point Barrow. A number of oceanographic stations were occupied throughout this area. The summer of 1938 was characterized by much open water in the Arctic. A general northerly movement of water occurred in Bering Strait, the waters on the American side being considerably warmer than those on the Siberian side.

OCEAN BOTTOM SURVEYS

The comprehensive offshore surveys, both on the Atlantic and Pacific coasts of the United States, continued to be of great interest to the geologist. The submerged patterns found have stimulated new thought directly influencing previous concepts of geology relating to ocean basins about which so little has been known heretofore. The recent researches and interpretations of the coastal slope soundings along the Atlantic Coast have been compiled and published by the Geological Society of America in cooperation with the Coast and Geodetic Survey.

THE AMERICAN GEOPHYSICAL UNION

The annual meeting was held at Washington, D. C. April 29, 1938. The papers given before the Section of Oceanography presented a review of the activities in the past year of the various Federal and educational institutions engaged in oceanographic work. In addition there were papers on the causes and results of long-period variations in the strength of the Gulf Stream system; one on the representation of suboceanic relief on maps of intermediate scale; one on deep-sea seismic measurements without wires or cables; one on an international program for collecting samples of surface water from the Columbia River to the Bering Sea; a report on the work of the International Commission on continental and oceanic structure, and the chemical characteristics of Seymour Inlet. These papers appear in full in Part I of the *Transactions* of the American Geophysical Union, published by the National Research Council in August, 1938.

INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

The Union will hold its Seventh Triennial General Assembly in Washington, D. C. Sept. 4–15, 1939. The Union is composed of seven associations relating to geodesy and geophysics. Many interesting papers are expected to be read dealing in problems of physical oceanography by both American and foreign investigators.

PERIODICAL PUBLICATIONS

American Mineralogist
Menasha, Wis.
Economic Geography
Clark University Press, Worcester, Mass.
Economic Geology
University of Illinois, Urbana, Ill.
Geographical Review
American Geographical Society, Broadway and 156th. Street, New York City.
Journal of Geography
3333 Elston Ave., Chicago.
Journal of Geology
5750 Ellis Ave., Chicago.
Mining and Metallurgy
29 West 39th. Street, New York City.
National Geographic Magazine
National Geographic Society, Washington, D.C.
Nature
295 Madison Ave., New York City.
Petroleum World
Bendix Building, Los Angeles, Calif.
Travel
116 East 16th. Street, New York City.
Travel America Guide
222 East 42nd. Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Assn. of Petroleum Geologists, Box 1852, Tulsa, Okla.

American Geographical Society, Broadway at 156th St., New York City.

American Meteorological Society, Blue Hill Observatory, Milton, Mass.

Appalachian Mountain Club, 5 Joy St., Boston, Mass.

Association of American Geographers, University of Pennsylvania, Philadelphia, Pa.

Explorers Club, 10 W. 72nd Street, New York City.

Geological Society of America, 419 W. 117th Street, New York City.

National Geographic Society, Washington, D.C.

Seismological Society of America, University of California, Berkeley, Calif.

DIVISION XXI
CHEMISTRY AND PHYSICS

PHYSICAL CHEMISTRY

By Hugh S. Taylor

Professor, Princeton University

GENERAL

There are no spectacular advances in physical chemistry to record which put in the shade the steady development and expansion of the science. This report therefore concerns itself with three main topics along which advances are rapidly occurring. These are concerned with the central problem of chemical equilibrium and its calculation from known properties, with the theory of the liquid state and with the interpretation of the properties of solids in terms of the architecture of the solid.

EQUILIBRIUM

In the last 25 years the greatest advance in the treatment of equilibrium in chemical reactions has been made possible by the accumulation of data on the entropies of substances either by measurements of heat capacity at low temperatures or by application of the methods of statistical mechanics making use of spectroscopic data supplied by the physicist. The need for such methods is increasingly felt. The position of equilibrium in a chemical reaction is required to permit a decision as to whether a given set of initial materials can be made to yield a desired product and under what conditions of temperature, concentrations and pressure. Technical chemistry especially has need of such data. In many of the earlier technical processes it has been possible to determine experimentally such positions of equilibrium. In newer industries, especially in those involving carbon compounds, as, for example, in the utilization of petroleum, such experimental methods are impossible, in many cases, for a variety of reasons. In such cases, industry must lean heavily on the physical chemist for the new theoretical methods of obtaining the necessary data by calculation rather than by experiment.

Evidence of the response to such needs is very evident in the recent physical chemical literature and each year reveals further refinement of such theoretical techniques. Contributions on "the thermo-dynamics of gaseous hydrocarbons" have been numerous and, as is so often the case, technical need has brought with it scientific advance. It is not possible to record such advance in detail but one illustration may be indicative. The organic chemist in thinking of his chemical bonds has laid down principles governing bond behavior. One of these was that a single bond between carbon and carbon was unrestricted as to rotation, with respect to one another, of the groupings so bound. A double bond, as in ethylene $H_2C = CH_2$, on the other hand, conferred rigidity and, hence, the possibility of several arrangements of attached groups in space.

These motions of the component units of a molecule play an important role in the statistical approach to the problem of equilibrium. Careful examination has therefore been made of the organic chemist's postulate in reference to the single carbon-carbon bond, with special reference to the simplest such compound, the hydrocarbon, ethane, $H_3C - CH_3$; research work in Germany, England and especially in the United States in several laboratories all tends to show that there is a certain, but small, restriction on the rotation of groups around the single carbon-carbon bond. This, while normally unimportant in the work of the organic chemist, has much greater significance in theoretical equilibrium calculations, especially when extended to molecules containing many such bonds. Appreciable restriction of rotation at single bonds would considerably increase the number of compounds which could be prepared with a given formula. Thus, while there could only be one form of the compound $H_3.C.CH_2Br$ there would, with restricted rotation, be two forms of the compound $H_2DC.CH_2Br$ in which a deuterium atom replaces a hydrogen atom. It is of interest that Raman spectra of this latter compound show doubling of the lines obtained, a result which may be interpreted in terms of two compounds and confirmatory of the work mentioned above as to restricted single bond rotation.

THE THEORY OF THE LIQUID STATE

The development of the theoretical treatment of the liquid state, the beginnings of which were reported in 1937, has continued during 1938. Especially notable is a treatment of the condensation of vapors to liquids by J. Mayer and his collaborators in Johns Hopkins University. The treatment is statistical and covers the pressure-volume-temperature relations of the gaseous and liquid states and is especially illuminating in the interesting critical region where the meniscus between liquid and vapor disappears. Mayer's theoretical treatment predicts a range of temperature immediately above the point of meniscus disappearance where a range of densities are equally stable, revealing themselves in sealed bombs as two regions of different densities, at a given temperature and with a given average density. It is interesting to observe that these theoretical conclusions are in best agreement with the most careful experimental work in the critical region, especially that conducted in McGill University over a period of years by O. Maass and his students, with the critical phenomena of such substances as methyl ether, propylene and ethylene.

Eyring and Kincaid have shown that the free volume of a liquid can be deduced by a simple relation involving the velocity of sound in the liquid and the vapor and the specific volume of the liquid. This alternative method of calculating the "holes" in a liquid checks closely the results of independent data on the same quantity and strengthens the bases upon which theoretical physical chemists are constructing a sound theory of the liquid state. In the same paper it is shown that the properties of the so-called "abnormal" or "associated" liquids, such as water and the alcohols, can all be formulated in terms of the principles adequate for normal liquids together with the concept of a restriction of rotation of the individual molecules in abnormal liquids. No other factors appear to be necessary. On this view the only difference between a "normal" and an "associated" liquid is that the former has a completely unrestricted rotation, the latter a restricted rotation of its component molecules. It is interesting to note that the velocity of sound method of determining free volume indicates that the "associated" liquids have quite normal free volumes similar to those obtained in "normal" liquids. The restricted rotation of the associated liquids is to be interpreted as due to the formation of hydrogen bonds as first suggested 18 years ago by Latimer and Rodebush. Much research showing the existence of these hydrogen bonds is under way especially in the field of infra-red absorption, hydrogen bonding being accompanied by a very considerable increase in absorption and a marked shift in frequency in the direction of longer wave lengths. These bonds are formed readily in substances where hydrogen is attached to nitrogen, oxygen and fluorine but not when it is attached to carbon.

THE PROPERTIES OF THE SOLID STATE

At least three international conferences were held during 1937 on the properties of solids and their chemical reactions. Two important books were published dealing with the same topics. This attention to the solid state is a very good index to the present importance of the subject in both the scientific aspects and industrial applications. Among the latter are applications to alloys, to the production of fluorescent solids for the newer illuminating lamps, to the preparation of active catalytic agents formed by interaction of two or more solids or by decomposition of one solid to yield a new solid phase or by interaction of a solid with another reactant to yield a new solid phase of suitable activity. Details of these discussions are to be found in the *Transactions* of the Faraday Society for August, 1938 and in the *Zeitschrift fur Elektrochemie* for August and September. Many of the properties of these solids are determined by the fact that the solids are not completely ideal lattices, that occasionally there are either "holes" which should ordinarily be occupied by an atom or ion or there are foreign atoms which are the loci of unsaturation. Ions, electrons and atoms can move in such solids either along the interstitial planes or by entering a vacant site with simultaneous production of a new vacant site. In the latter case diffusion is determined by the movement of the "holes." Such interdiffusion of ions into the lattices of other solids is the first stage in the formation of a new solid phase. Catalytic investigations as well as the charactertistics of the intermediate stages for adsorption indicate that, in many cases, it is the intermediate state of disorganization rather than the organized lattice of the reaction product which is the active catalyst of reaction. The spacing of the atoms in a lattice may have a great influence on catalytic activity. Thus active nickel catalysts can be prepared by dissolving out the aluminum from nickel-aluminum alloys, one of which has the composition $NiAl_3$. The removal of the aluminum atoms leaves vacant sites and maintains the nickel-nickel spacing of the original alloy until all but 0.5 per cent of the aluminum is removed, after which the structure collapses to that of a pure nickel crystal with a very large decrease in catalytic activity. (A. Taylor and J. Weiss, *Nature,* 141, 1055 [1938]).

Electrolytic conduction in crystalline ionic solids is also a function of the crystal structure and the presence of holes. Thus, cadmium chloride, $CdCl_2$, in solution in solid silver chloride, AgCl, enhances the electrical conductivity of the latter because, for every two Cl ions introduced into the silver chloride lattice, only one cadium ion is introduced. A vacant space or hole is thereby produced which offers greater opportunity for the migrating ion, the silver Ag^+, to wander under the influence of the current. Silver mercury iodide, Ag_2HgI_2 is a similar case of an ionic lattice showing remarkably high conduction, especially noticeable as its structure is one in which the number of atoms is smaller than the number of lattice points among which the atoms have to be distributed. The three metal ions (2Ag + 1 Hg) are randomly distributed among an available four points, with, on the average, every fourth point unoccupied. This salt is a thousand times better conducting substance than any other electrolytic conducting solid substance in the range of temperature 50–150°C. The substance also shows abnormal specific heats as is true in the case of alloys which show disorder phenomena. In the case of alloys, however, the conduction is electronic, not ionic.

In the luminescence of crystals the special properties of the crystals are to be attributed to a replacement of an ion of the parent material by isolated ions of the impurity promoting luminescence. In an alkali halide phosphor thallium behaves as though it consisted of a gas of monatomic thallium ions with a few centers of diatomic thallium. The phosphorescence is produced by excitation of one of the thallium ions in a diatomic pair to a high energy state. Such phosphors do not become photo-conducting. In zinc sulphide phosphors activated by copper it is probable that interstitial copper atoms are ionized by light which stimulates both phosphorescence and photo-conductivity (Seitz, *J. Chem. Phys.*, 6, 150, 454 [1938]). The examples cited in this section must suffice to illustrate how the X-ray analysis of solid structures is now being applied to the elucidation of the most diverse properaties of matter in the solid state. From our knowledge of the architecture of the solid structure an illuminating interpretation of the properties of the solid state is being achieved.

PHYSICS

By Thomas H. Osgood

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GENERAL

Nuclear physics claimed far more attention during 1938 than any other branch of the subject. Advances however, were made along several lines, in addition to those reviewed in this article. For example, there were many studies of thin films composed of layers of long chain molecules. Some of these films possess an electric moment, about the permanence of which there is much argument and little agreement. Important developments took place in the construction of high-voltage devices for accelerating to high speeds the charged particles which are used for researches in atomic disintegration. Cosmic ray showers were detected, covering even larger areas and carrying more energy than was formerly supposed; and the interpretation of cosmic ray intensities in the light of fluctuations in the earth's magnetic field during magnetic storms is beginning to give information about the energy spectrum of the rays themselves.

ARTIFICIAL RADIOACTIVITY

The careful identification of the final products in nuclear reactions has led to the recognition of many isomeric forms of the same nucleus. For instance, when scandium (Sc^{45}) is bombarded with fast neutrons, the product decays by emitting positrons in two groups, one with a period of about 52 hours, the other with a period of about four hours. These were presumed to be due to Sc^{44} and Sc^{43} respectively, though the matter could not be considered unambiguous in view of an earlier identification of a 4-hour period as due to Sc^{42}. Recent work of Burcham, Goldhaber, and Hill (*Nature* 141, 510) indicates that these identifications are only in part correct, the authors holding the belief that both 52- and 4-hour periods arise from the positron decay of Sc^{44}. Their argument for this correction depends on a consideration of the energies involved and of the comparative abundance of the 52- and 4-hour parent nuclei to be expected under the conditions of published experiments. If Sc^{45} be bombarded with neutrons of the particular energy 14 Mev, the reaction

$$Sc^{45}+n^1 \rightarrow Sc^{44}+2n^1-Q$$

should be possible, whereas these bombarding neutrons carry insufficient energy to complete the reaction

$$Sc^{45}+n^1 \rightarrow Sc^{43}+3n^1-Q.$$

It is clear that the products of the former process do not include Sc^{43}, yet both 52- and 4-hour decay periods, with emission of positrons, have been observed to follow. There seems to be no doubt, then, that Sc^{44} exists in two isomeric forms.

At present, the guiding theory of the nucleus is based on the behavior of what is known as the "evaporation" model. It is obvious that the individual particles of which the nucleus is composed must be arranged in very close formation, if, indeed, it is still permissible to speak of the components as retaining their individuality under such conditions. The jamming is so tight, in fact, that an energetic particle coming in from outside can not, after its capture, be expected to retain its individual energy. Its entrance into the nucleus merely adds to the general hurly-burly, the additional energy being shared generally and quickly among all the component particles. This process may well be described as increasing the "temperature" of the nucleus, although the term can hardly be interpreted as literally as in the kinetic theory of gases. Bohr has pointed out that the excited nucleus behaves in some respects like a drop of fluid, and that its temporarily stable states have a counterpart in the different modes of oscillation of the drop under the influence of elastic and surface forces. The nucleus will remain in an excited state until a chance redistribution of energy among the components gives one particle, a disintegration particle, enough energy to "evaporate."

To illustrate what has been accomplished in mapping the energy levels of a nucleus, it is appropriate to refer to the work of Pool and Campbell (*Phys. Rev.* 53, 272) on radiosilver (Ag^{106}). This element can be produced in a variety of ways: by bombarding Ag^{107} with neutrons, Cd^{106} with neutrons, Pd^{105} with deuterons, and Rh^{103} with alpha particles. The nucleus exists in two isomeric forms, characterized by decay periods of 8.2 days and 24.5 minutes. Energy differences between nuclear levels can be inferred from a study of the energies of the beta and gamma rays which are emitted. The data suggest that the energy levels responsible for the 24.5-minute period and the 8.2-day period differ by 0.3 Mev, the former being the higher. In decaying to stable Pd^{106}, the "24.5-minute nucleus" emits positrons with kinetic energy up to 1.9 Mev. On the other hand, the 8.2-day nucleus has several alternative routes. By far the most probable is the capture of a K electron followed by the emission of gamma rays (probability 640); or an electron may be given out with maximum energy 1.3 Mev, leaving a Cd^{106} nucleus behind (probability 40); or a positron may be emitted with maximum energy 0.6 Mev (probability 1), after which one or more, probably, two gamma rays totalling 1 Mev, carry away enough energy to leave the nucleus as normal Pd^{106}.

When resonance effects can be detected in nuclear processes, it is possible to derive directly the excited energy states of the nuclei concerned. A study which is thoroughly representative of this type of work has just been completed by Bernet, Herb and Parkinson (*Phys. Rev.* 54, 398). The intensity of the gamma rays emitted when a thin fluorine film is bombarded by protons of known energy is, of course, proportional to the rate of transmutation. When the gamma ray intensity is plotted as a function of the energy of the bombarding protons, a curve is obtained with many fairly narrow high peaks, which correspond to resonance. This particular investigation revealed seven resonance peaks in the range 0.2 to 2.2 Mev which were sufficiently sharp to make it worth while estimating their half-widths.

It was suggested in 1937 that many a radioactive nucleus potentially capable of emitting a positron never does so, the inevitable reduction in nuclear charge being accomplished by the absorption of a K electron from the outer parts of the same atom. Following Jacobson's fruitless attempt, Alvarez was able to show that the K-radiation of Ti^{48} accompanied the decay of V^{48} to Ti^{48} with about one half of the decaying nuclei following the internal conversion process.

More detailed knowledge of this process was obtained by Williams and Pickup (*Nature* 141, 199), whose cloud chamber photographs show the short photoelectron tracks to be expected on account of the absorption of the fluorescent K radiation by the gas of the chamber. Continuing the work in his latest paper, Alvarez

(*Phys. Rev.* 54, 486) not only examines carefully the case of Ti^{48}, but reviews the data concerning other artificially radioactive nuclei whose decay is known or presumed to follow the internal conversion process. Already Ta^{180}, K^{40}, Zn^{65}, Hg^{197}, Ag^{106}, Cd^{106}, Cd^{109}, Be^7, Mn^{54} and Ga^{67} are on the list. The last has been studied in the greatest detail. It can be prepared from Zn by deuteron, alpha particle or proton bombardment, and has been identified chemically as Ga.

The various items bearing on the disintegration of a Ga^{67} nucleus have been pieced together into a consistent scheme as follows. The nucleus of radioactive Ga^{67} first captures an orbital electron instead of emitting a positive electron. There remains an atom of Zn^{67}. Both the nucleus and the atom as a whole are in high energy states. The return to normal is accomplished by the emission of soft gamma rays of two energies from the nucleus, and Zn $K\alpha$ radiation from the extra-nuclear part. The softer of the two gamma rays is largely internally converted, driving a photoelectron from the K or L shell. Hence the radiations emitted during the decay of Ga^{67}, potentially a positron emitter, to Zn^{67} are (a) Zn $K\alpha$ x-rays, (b) gamma rays, 0.25 Mev, (c) gamma rays 0.1 Mev (weak), (d) photoelectrons, 90 kev, (e) photoelectrons 99 kev, and finally (f) more Zn $K\alpha$ and some softer fluorescent x-rays characteristic of Zn^{67}.

PROTONS AND NEUTRONS

An understanding of the close-range forces between protons and neutrons is essential for the building up of a satisfactory theory of the nucleus. Hafstad, Heydenburg and Tuve (*Phys. Rev.* 53, 239) have continued their experiments on the scattering of protons by protons to clear up a possible ambiguity in the interpretation of their earlier results. They had formerly shown that the scattering near 45° was considerably in excess of that to be expected if only Coulomb forces were operative between the particles. In the particular range of their earlier experiments, it happens that this may mean either that additional repulsive forces come into play at close approach, or that an attractive force balances out part of the normal Coulomb repulsion. A decision between these two alternatives can be made. The investigators point out that if such a nuclear attractive force really exists, then under certain conditions it ought to be possible to balance the increasing attractive force against the increasing Coulomb force. In agreement with this idea they find that the scattering of protons by protons at 45° shows a definite minimum for a bombarding potential of about 400 kilovolts.

In the determination of nuclear masses the most important measurement is that of the energies of the particles which are ejected during the disintegration of nuclei when bombarded by other particles of known mass and energy. A new development in measurements of this type has been reported by Allison (*Phys. Rev.* 54, 171) and his associates in Chicago. When Be^9 is bombarded by protons, two reactions occur,

$$Be^9+H^1\rightarrow Li^6+He^4+Q_1,$$
$$Be^9+H^1\rightarrow Be^8+H^2+Q_2.$$

In most of the earlier work on these reactions, the energy of the incident protons was such that the alpha particles and deuterons resulting from the reactions had much the same range; hence it was difficult to detect them separately. However, the yield in the first reaction is so high with bombarding energies of the order of 300 or 400 kv, that it is possible to bend the disintegration deuterons and alpha particles through 90° by a strong electrostatic field between cylindrical condenser plates. Thus the two types of particles were very well separated, and could be studied more accurately than hitherto. Briefly, the result of the investigations is that the value of Q, above is 2.152±.04 Mev, which establishes the difference in mass between Be^9 and Li^6 as 2.99804±.00009. Hence the new value for Be^9 is 9.01490±.00025. This should be compared with last year's value, 9.01504.

A new technique is being developed

for studying the scattering of slow (thermal) neutrons which promises to yield more accurate results than have yet been obtained. This technique, in which the cyclotron output is modulated, has been in process of development in the Radiation Laboratory of the University of California for some time, and Alvarez (*Phys. Rev.* 54, 609) describes the procedure in considerable detail. The problem which has been solved is that of obtaining an intense collimated supply of thermal neutrons. The high-frequency input to the "dees" of the Berkeley cyclotron has been modulated at 120 cycles per second. The linear amplifier used as a neutron detector was also modulated at 120 cycles per second but in the opposite phase, the distance to the detector being chosen so that scattered fast neutrons reached it only when it would not respond. Though this method of obtaining pure beams of slow neutrons is still in its infancy, it has given gratifying results in a few experiments undertaken to test its reliability. It is feasible only if the original beam of fast neutrons is very intense.

COSMIC RAYS

By far the most important recent event in research on the nature of cosmic rays has been the proof of the occurrence of particles carrying either a positive or a negative charge, of mass about 200 times the mass of the electron. Photographs of the tracks of these strange particles have been obtained by many observers. The cosmic ray particles which reach sea level fall definitely into two classes, one absorbed rather easily by 10 meters of water, the other much more penetrating. Practically all authorities agree in identifying the soft component with high energy electrons which interact with nuclei to form the much discussed showers. The suggestion, made several years ago, that the penetrating component consisted of protons, has had to be abandoned. The curvatures and the specific ionizations along their tracks in cloud chambers cannot be made to fit the proton hypothesis, nor can the tracks conceivably be due to ordinary electrons. These heavy electrons lose too little energy in nuclear collisions to give rise to the shower phenomena, and it is this husbandry of their energy which gives them their great penetrating power.

In spite of the fact that these heavy electrons must die in appreciable numbers near the earth's surface, nothing is known experimentally of their ultimate fate. Neddermeyer and Anderson (*Phys. Rev.* 54, 88) have photographed one such particle both before and after it passed through a tube counter placed inside an expansion chamber. Although the heavy electron, which Anderson has christened the mesotron, comes to rest in the gas of the chamber, the picture gives no definite evidence of its ultimate fate. It may disintegrate into an electron and a neutrino.

Arley and Heitler (*Nature* 142, 158) have recently suggested a very novel interpretation of some experiments on the occurrence of showers at great depths. The point at issue is to discover what kind of primary radiation can penetrate to depths as great as 800 meters of water and still retain enough energy to create showers such as are observed. Shower particles themselves produced at sea level would of course be absorbed entirely before reaching such depths. Clearly the primary radiation must lose little energy as it flies downward; that is, it must produce practically no ions. Furthermore, the absorption of this primary radiation is very similar to that of heavy electrons. The interpretation suggested is that these non-ionizing shower producing primaries are neutral counterparts of the heavy electron; for these the name neutretto is suggested. While the acceptance of this idea must await further experimental evidence, Arley and Heitler point out that such a neutral particle will fit very well into the pattern demanded by recent theories of the nucleus, by giving a plausible reason why the short range forces between two protons are the same as those between a proton and a neutron.

With the publication of Dymond

and Carmichael's results (*Nature* 141, 910) the mapping of the variation of cosmic ray intensity with altitude at different latitudes has been extended practically up to the north magnetic pole. Accompanying the Wordie expedition to Baffin Bay in 1937, they sent up free balloons with recording instruments between magnetic latitudes 85° and 90°. At the highest altitude reached, the pressure was about 12.5 mm of mercury. On account of the idiosyncrasies of individual ionization chambers, a direct comparison of their work with similar and much more extensive experiments of Regener and of Millikan and Neher (about latitude 50°) can be made only by adjusting the absolute ionization curves. When this is done, all three sets of results agree well, down to pressures about 100 mm of mercury. It is to be expected, indeed, that at altitudes where the atmospheric pressure is greater than this, curves taken at different magnetic latitudes should be the same. At pressures of the order of 10 to 30 mm of mercury, however, the ionization should be greater the higher the geomagnetic latitude. This is what Dymond and Carmichael find, the peak value of their ionization curve falling at about 20 mm of mercury. It is not yet possible to say at what latitude the radiation responsible for this peak fails to be recorded by the instruments, though it must be within the limits about 50° to 90° magnetic latitude. It may well be, however, that the high altitude ionization increases (as is known) up to about 50° and thereafter remains the same. This means that primary rays coming in from outer space either do not possess energies less than about 3×10^9 electron volts, or if they do, are prevented from reaching the ground by some agent other than the magnetic field of the earth—perhaps, but probably not, the magnetic field of the sun.

PROPERTIES OF MATTER

Preeminent as an investigator in the field of high pressures, Bridgman (*Am. Acad. Proc.* 72, 227), during 1938, gave several reports of the compressibilities of many light and heavy metallic elements, and of the phase changes which chemical compounds (notably water and a wide variety of complex organic substances) undergo when they are subjected to pressures up to 50,000 kg/cm^2.

Such extreme conditions can scarcely be matched except in the field of very low temperatures. Nearly a year ago Kapitza (*Nature* 141, 74) gave an account of the puzzling behavior of liquid helium II. This is the name given to helium below the temperature of about 2.2°K. Later, a few simple experiments by Daunt and Mendelssohn (*Nature* 141, 911) solved the puzzle and threw light on a curious "distillation" process discovered by Onnes in 1922 and rediscovered quite recently in a different guise by Rollin. The discovery was that helium II could creep over the surface of a cold solid in an unexpected way.

This transfer has been shown to depend only on the thermal state of the liquid, and to be accomplished by a moving layer of helium about 5×10^{-6} cm. thick. Although the liquid in the free state has been reported to show an abnormally high thermal conductivity, it now appears that this also may be due to the actual transport of helium, the quantity of heat transferred depending on the specific heat and on the mass of liquid transported.

The process of adiabatic demagnetization permits the attainment of temperatures well below 1°K. At such a temperature, the energy of a paramagnetic salt is composed mainly of the disorder of the magnetic ions. If these be magnetized strongly at constant temperature, a much more orderly, more specialized array is produced, corresponding to a decrease in entropy.

If then the salt be demagnetized adiabatically, there can be no increase in entropy, so the temperature of the now disorderly ions must be lower than before. However, the two standard methods of measuring these low temperatures, involving either vapor pressures or magnetic susceptibilities, do not give the same results, so that it may be necessary to adopt temporarily some arbitrary standard on the basis of which new experimental results may be compared. It is estimated that the limiting temperature obtainable by the usual process of adiabatic demagnetization is about .001°K, although there have been speculations concerning lower values which might perhaps be attained if it becomes possible to use nuclear magnetic moments as an aid to cooling.

ATOMIC AND ELECTRONIC CONSTANTS

Two new determinations of e/m for electrons have been published. One by Shaw (*Phys. Rev.* 54, 193) dealing with free electrons, gives the value $e/m = 1.7571 \pm .0013 \times 10^7$ emu. The other, by Bearden (*Phys. Rev.* 54, 698) deduces the value from the refraction of copper $K\alpha\beta$ x-rays in diamond, and leads to a higher value, $1.7601 \pm .0003 \times 10^7$ emu. Probably the best value available at the moment, which takes into consideration the recent work of several investigators, is 1.7590×10^7 emu.

In the matter of atomic constants, Dempster's work (*Phys. Rev.* 53, 727 and 869) is outstanding. He has found a few new isotopes, such as those of ytterbium at 168 and 170, and has improved the accuracy of Aston's original packing fraction curve. His new results show definitely that between Pb^{82} and W^{74} the curve drops more slowly than it would if alpha particles (mass 4.0039) could be successively removed from nuclei. Therefore in this range there can be no spontaneous emission of alpha particles. On the other hand, from Th^{90} to Pb^{82} the drop is larger than the successive abstraction of alpha and beta particles would require; hence such particles can be emitted spontaneously, even carrying away some kinetic energy into the bargain.

NOBEL PRIZE

The Nobel Prize for Physics was this year awarded to Professor Enrico Fermi of the University of Rome in recognition of his work on the transmutation of elements by capture of slow neutrons.

ORGANIC AND INORGANIC CHEMISTRY

By C. M. Suter

Professor, Northwestern University

STRUCTURE OF INORGANIC MOLECULES

Marked progress has been reported (Brockway, Beach, Palmer and Elliot, California Institute of Technology) in determining the arrangement of the atoms in a variety of inorganic molecules by the electron diffraction method. The aluminum halides which have the general formula Al_2X_6 in the gaseous state below 400° are represented by two somewhat distorted tetrahedrons which share one edge, two of the halogen atoms being held by both aluminum atoms. The distance between these two halogen atoms is much less than for the other halogen-halogen distances.

Investigation of sulfur halides and oxy-halides showed that sulfur monochloride (S_2Cl_2) has one chlorine attached to each sulfur as had previously been supposed. Thionyl chloride ($SOCl_2$) exists in the shape of a pyramid, the sulfur and oxygen being joined by a single bond. Sulfur trioxide on the other hand has a planar structure while sulfuryl chloride, vanadium oxytrichloride and chromyl chloride are tetrahedral. In the phosphorus oxyhalides the phosphorus and oxygen are joined by a double bond. The distance between fluorine atoms in the fluorine molecule was found to be 1.45±.05 Ångstroms, a value about 14% greater than expected for a normal single covalent bond. Further work will be necessary, however, to make certain that this is the case.

RELATIVE ABUNDANCE OF ISOTOPES OF LEAD

It has apparently been assumed in the past that when atomic weight values for samples of an element obtained from various sources were identical that the relative amounts of the various isotopes did not vary. It is obvious, however, that when an element is composed of three or more isotopes the percentage of one isotope may vary without changing the atomic weight provided the percentages of the others vary in the proper manner.

In an examination of 12 samples of lead covering a wide range of both geologic age and geographic origin Nier (Harvard Univ.) found that such a variation did occur. For example, taking the amount of isotope 204 as 1.000 in each case, lead from Galena of Great Bear Lake contained 35.3 units of isotope 208 while that from Joplin, Mo. contained 40.3 units. The three samples having the greatest geologic age had the same isotopic composition and were tentatively referred to as "primeval" or uncontaminated lead, the larger amounts of isotopes 206, 207, and 208 in most of the other samples being tentatively ascribed to the addition of lead obtained from radioactive decomposition of uranium and thorium, the addition probably occurring before the mineral crystallized.

NITROGEN FIXATION BY ORGANIC COMPOUNDS

There is apparently no instance on record of an organic compound reacting with ordinary nitrogen, and since most reactions that might conceivably occur involve an increase in free energy the chance of ever obtaining nitrogen-containing organic compounds by this method is exceedingly small. On the other hand, active or atomic nitrogen prepared by passing the ordinary variety through an electric discharge offers interesting possibilities as a reagent. Previous to the work of Howard and Hilbert (Bureau of Chemistry and Soils, U. S. Dept. of Agriculture) only hydrogen cyanide had been observed as a nitrogen-containing product from the action of activated nitrogen on several organic substances. These investigators have found that the reaction with diphenylacetylene is complex, the products including hydrogen cyanide, "excited" cyanogen and a brown nitrogenous high-melting solid. The hope that the molecule of diphenylacetylene would be split yielding two molecules of benzonitrile was not realized; no more than a trace of the nitrile was formed. The brown solid contained 16—18% nitrogen and upon alkaline hydrolysis gave ammonia. Nitric acid oxidized it to benzoic acid and an unidentified nitrogen-containing acid.

Tetrahydronaphthalene and benzonitrile likewise gave amorphous solids with active nitrogen while isoprene gave a low-boiling liquid that upon hydrolysis produced ammonia. It would be of much interest from the standpoint of the reaction mechanism for the structure of this compound to be determined. The formation of ammonia indicates that it may be a simple nitrile. It is to be hoped that investigation of this interesting field will continue.

ORGANIC REACTIONS AND REAGENTS

Of great importance to the organic chemist are the discovery of new reactions and of the conditions for extending old ones so that their usefulness is increased. Either of these developments may make possible the synthesis of a naturally occurring product otherwise unattainable or make accessible a whole class of substances otherwise difficult to obtain.

Norris and Ingraham (Mass. Institute of Technology) have found it possible to condense benzene with ethyl alcohol in the presence of aluminum chloride to give sym-triethylbenzene. Toluene or m-xylene with methanol similarly yields mesitylene.

Although the Claisen or acetoacetic ester condensation has received the attention of many investigators, only lately has it been found possible to induce esters having only one alpha hydrogen to undergo this change. From theoretical considerations Hauser and Renfrow (Duke

University) came to the conclusion that by the use of a stronger base than sodium ethoxide two molecules of ethyl isobutyrate could probably be condensed. It was found that sodium triphenylmethyl was a satisfactory base and 35% or more of the keto ester was obtained. Later it was found that ethyl benzoate would also condense with ethyl isobutyrate yielding a keto ester in which no enolization can occur, a result unexpected in view of the failure to effect other similar condensations. Roberts and McElvain (Univ. of Wisconsin) made the interesting observation that neither ethyl isovalerate nor ethyl t-butylacetate are condensed by sodium ethoxide even though they each have two hydrogens in the alpha position, previously considered necessary to effect the reaction.

A convenient procedure for adding sulfur trioxide to olefin bonds has received preliminary study (Suter, Evans, and Kiefer, Northwestern Univ.). This involves the formation of an addition product between dioxane and sulfur trioxide which at room temperature or below readily transfers the sulfur trioxide to the unsaturated compound without appreciable side reactions. A somewhat analogous case is the use of phenyliodo dichloride and difluoride as halogenating agents reported last year by Garvey, Haley and Allen (McGill Univ. and B. F. Goodrich Co.).

Marvel and associates (Univ. of Illinois) have been investigating the cyclization reactions of highly unsaturated compounds containing two double and one triple bond (dieneynes) in the synthesis of compounds otherwise difficult to obtain. *Trans*—1, 2-dialkyl decahydronaphthalenes and certain hydrophenanthrenes have now been obtained. Of particular interest is the fact that these ring closures lead to the *trans* compounds; this may prove of value later in determining the configurations of some of the many naturally occurring compounds of the sterol type which contain a reduced phenanthrene nucleus.

Condensation of a diazotized amine with an aromatic hydrocarbon has been found to occur only when there is an accumulation of nitro groups on the amine nucleus and three or more methyls on the hydrocarbon ring. Fieser and Campbell (Harvard Univ.) have made the interesting observation that highly active carcinogenic hydrocarbons undergo this reaction with p-nitrobenzenediazonium chloride and that there is a rough parallelism between the ease with which this reaction occurs and carcinogenic action.

SYNTHETIC ORGANIC MEDICINALS

The discovery a few years ago that sulfanilamide, a compound long known to organic chemists but whose physiological properties had remained unstudied, was specific for the treatment of certain streptococcus infections has lead to an intensive investigation of the synthesis and pharmacology of many related compounds. While only a few of these investigations have been described in the journals a brief report of the progress so far reported may be made.

The low solubility of sulfanilamide in water unfortunately led to the marketing of a so-called "elixir" in which diethylene glycol was employed as a solvent. Many deaths occurred from the use of this product before the toxic properties of the solvent were recognized. Recently Crossley, Northey and Hultquist (Calco Chemical Co.) and Kolloff (Upjohn Co.) have reported on studies of the synthesis of water soluble compounds related to sulfanilamide. Preliminary animal experiments indicate that certain of the new compounds, notably N-sulfanilylorthanilic acid, 2-sulfanilamidobenzoic acid, and a few more complex derivatives are more effective than sulfanilamide itself. According to Crossley and co-workers certain generalities may now be outlined regarding the relationship between structure and anti-streptococcal activity of sulfanylamide derivatives: (1) Both the amino and sulfonamide groups are necessary for the activity in compounds containing one benzene ring; (2) Shifting the amino group from the para to the meta or ortho position results in marked loss of activity; (3) A third group on the ring lowers the activity; (4) Substitution of the amine hydrogen by various groups usually lowers the activity while replacing the amide nitrogen has a variable effect. At least two compounds reported were found to exert activity toward influenza virus in mice, and dog distemper virus. These observations may extend markedly the usefulness of the sulfanilamide group of compounds.

Discovery by Buttle, Gray, and Stephenson and by Rosenthal, Bauer, and Branham that sulfanilanilide was highly effective in pneumococcic infections in mice induced Webster and Powers (Univ. of Illinois) to prepare a series of substituted anilides. The pharmacology of these compounds has not been reported as yet.

The observation by Rosenheim that mandelic acid is useful as a urinary antiseptic has led to several investigations of this and related compounds. Riebsomer, Irvine and Andrews (Depauw Univ.) have prepared several alkyl and two chloromandelic acids none of which is less effective than mandelic acid, and the p-chloromandelic acid seems to be definitely superior to the unsubstituted compound on the basis of *in vitro* tests. The alkylmandelic acids were obtained in an interesting manner involving the condensation of the hydrocarbon with ethyl oxomalonate in the presence of stannic chloride followed by hydrolysis and elimination of carbon dioxide.

A study of some p-aminomandelic acid esters by Fosdick and Wessinger (Northwestern Univ.) has shown that these possess considerable local anesthetic action although less effective than novocaine. The free acids were not investigated as to bactericidal properties, however.

The widespread interest in and use of ephedrine and similar compounds has led to the preparation of many analogs and homologs. As further contributions in this direction Woodruff and Conger (Upjohn Co.) have synthesized a series of β-phenylisopropylamines in which the benzene ring contains a hydroxy or methoxy group and Woodruff and Pierson have prepared a series of β-phenyl-n-propylamines. These latter compounds showed interesting pharmacological properties.

The problem of preparing a compound that will be a suitable substitute for the habit-forming morphine is under intensive study at the University of Virginia by Small, Burger, Mosettig, Van de Kamp, and others. A number of substances derived from phenanthrene, dibenzofuran and carbazole show appreciable analgesic action. Of these, diethylaminomethyl-3-phenanthrylcarbinol, and 2-(3-diethylamino-1-hydroxy-n-propyl)-9-methyl carbazole are perhaps the most interesting.

MOLECULAR REARRANGEMENTS

An increasing number of organic reactions where one atom or group is replaced by another have been found to occur with rearrangement as soon as complex molecules are involved. In a series of investigations on the preparation of alkyl chlorides from alcohols, Whitmore and associates (Pennsylvania State College) have shown that either 2- or 3-pentanol when treated with hydrogen chloride at room temperature gives a mixture of the 2- and 3-chloropentanes. What is more surprising, n-amyl alcohol yields in addition to the n-amyl chloride an appreciable amount (10%) of a mixture of the 2- and 3-chloropentanes. In all three cases it is possible to obtain the individual chloro compounds from the alcohols by the action of thionyl chloride in pyridine.

If the carbon atom adjacent to the carbinol group bears two or three alkyl groups the changes of structure which accompany chloride formation are numerous and complicated. Thus 2-ethyl-1-butanol in addition to 2-ethyl-1-chlorobutane gives rise to at least six other chlorohexanes. The formation of these was explained satisfactorily by assuming the transitory existence of an unstable intermediate containing a carbon atom holding only six valence electrons. This intermediate may become stabilized at once by adding a chloride ion or may rearrange in any one of a number of ways to structures which yield the other chlorohexanes. Care was exercised in each case to show that the rearrangement occurs during the reaction and that the resulting chlorides were stable to the reagents employed.

The mechanism suggested by Bartlett and Pöckel (see THE AMERICAN YEAR BOOK, 1937) to account for the formation of isobornyl chloride has been confirmed by a study of the kinetics of the reaction in nitrobenzene solution. The behavior of *cis* and *trans* 1, 2-dimethyl-cyclopentanediol-1, 2 toward acid has been studied by Bartlett and Bavley While the *cis* isomer yields a ketone, probably through a Walden inversion type of mechanism, the *trans* isomer is converted into a tar that is probably a cyclopentadiene polymer. From this it may be inferred that dehydration occurs more readily than contraction of the cyclopentane to a cyclobutane ring, and that it is likely that a pinacol-pinacolone type rearrangement always occurs through a Walden inversion. It should be added that Bartlett received the 1938 $1,000 award donated by Kendall and bestowed by the American Chemical Society upon the chemist under 35 years of age who has shown the greatest promise in research.

THERMAL DECOMPOSITION OF ESTERS

Previously scattered work on the pyrolytic decomposition of esters has been correlated and much new data presented by Hurd and Blunck (Northwestern Univ.) They found that, from the standpoint of stability, esters may be divided into two groups. In one class are those having a beta hydrogen in the alkyl group such as ethyl, t-butyl, and i-butyl acetates which decompose readily at 525° or below, giving chiefly the olefin and the acid from which the ester was originally prepared. In the other category are compounds such as phenyl acetate and methyl phenylacetate which require a temperature of approximately 625°. Phenyl acetate yields phenol and ketene while methyl phenylacetate is converted into a mixture of products consisting chiefly of benzaldehyde, toluene and carbon monoxide. It was suggested that in the lower temperature decompositions the transitory formation of a hydrogen bridge involving the beta hydrogen of the alkyl group and the carbonyl may instigate the reaction whereas for the high temperature reactions a free radical mechanism is satisfactory.

NEW SUGAR DERIVATIVES

It was observed by Emil Fischer in 1895 that the action of methanol upon glucose gave the cyclic glucoside rather than the dimethyl acetal to be expected from the aldehyde form of the sugar. Not until 1938 had the acetal been synthesized. In the course of work on diethyl mercaptals of glucose and galactose derivatives, Wolfrom and associates (Ohio State Univ.) found that the action of cadmium carbonate and mercuric chloride in ethanol converted them into diethyl acetals. Applying this general reaction to d-glucose diethyl mercaptal pentacetate gave the dimethyl acetal pentacetate which was then hydrolyzed to the glucose dimethyl acetal. Pacsu (Princeton Univ.) has found that d-fructose dimethyl acetal is obtainable directly from d-fructose diethyl mercaptal when treated with mercuric chloride and oxide in methanol. Yeast has no effect upon the acetal in a neutral buffered solution although in distilled water conversion to methyl and ethyl alcohols and carbon dioxide occurs quantitatively. The ability to prepare sugar derivatives of the acetal type represents a distinct advance in carbohydrate chemistry.

GOSSYPOL, THE YELLOW PIGMENT OF COTTONSEED

Although gossypol (from Gossypium, botanical name for the cotton genus), the yellow pigment of cottonseed, was first isolated nearly 40 years ago and has been studied in several laboratories, progress toward proof of its structure has been slow until the intensive investigation by Adams and associates (Univ. of Illinois) of the last few years. Gossypol exists in several crystalline forms, the one obtained in a given instance depending upon the solvent employed in its crystallization. It is also reactive toward the oxygen of the air, particularly in alkaline solution, and the discovery of derivatives suitable for chemical study was difficult.

The absorption spectra of gossypol indicate that it contains two naphthalene nuclei and exists in tautomeric forms, conclusions verified by chemical data. The reactions of gossypol are explained by a symmetrical structure, each naphthalene nucleus having three hydroxyls, an aldehyde, a methyl and an isopropyl group attached. While verification of several features of this structure are necessary its essential points will very probably be retained.

HYDROGENATION OF LIGNIN

Although the chemical nature of cellulose may be satisfactorily expressed by a structural formula no such conclusion has yet been reached with regard to lignin, the next most important component of wood. An important new reaction of the lignin obtained from freshly cut aspen wood has been studied by Harris, D'Ianni, and Adkins (Forest Products Laboratory and Univ. of Wisconsin). Over a copper-chromium oxide catalyst at 250–260° each, 25 g. of lignin absorbs one mole of hydrogen when the pressure is 200–350 atmospheres and the solvent is dioxane. Some 70% of the lignin is accounted for by methanol and the n-propylcyclohexane derivatives produced. However, there were also obtained compounds so far unidentified containing 18 or more carbon atoms per molecule, showing that lignin can not be made up entirely of nine carbon units as had been suggested earlier by other investigations. These hydrogenation experiments may have practical implications. If the alcohols and glycols (other than methanol) produced can be shown to have industrial uses some of the waste lignin resulting from paper and rayon manufacture may become something more than the nuisance it now is.

VITAMIN E, THE FERTILITY VITAMIN

It was mentioned in THE AMERICAN YEAR BOOK for 1937 that α-tocopherol, the most active component of the Vitamin E group, was probably a simple ether of durohydroquinone. However, α-tocopherol differs from durohydroquinone ethers both in absorption spectra and in behavior toward oxidizing agents. From the oxidation experiments Fernholz (Research Laboratories, Merck and Co.) concluded that α-tocopherol must then be either a chromane or coumarane derivative with the former the more likely since one of the oxidation products was a lactone. A coumarane derivative could only give a β-hydroxy acid which does not yield a lactone. The hydroxyl was resistant to oxidation and therefore was believed to be tertiary.

Karrer synthesized α-tocopherol by condensing trimethylhydroquinone with phytyl bromide and zinc chloride and assigned the vitamin the coumarane (5 membered ring) structure since allyl bromide gave such a ring under the same conditions. However Smith and associates (Univ. of Minnesota) soon found that γ, γ-disubstituted allyl bromides which are more strictly analogous to phytyl bromide give chromanes and that α-tocopherol can be made from trimethylhydroquinone and phytadiene, a reaction analogous to the formation of the dimethylchromane from the hydroquinone and isoprene. Present evidence is therefore strongly in favor of the chromane type structure,

β- and γ-tocopherols give the same lactone as the α-compound (Emerson) and hence the three compounds differ only in the number of methyl groups attached to the hydroquinone ring.

NEW ALKALOIDS IN ACONITUM NAPELLUS

Although aconitine, the first member of the highly toxic aconitum alkaloids, was isolated over 100 years ago no satisfactory structural formulas have been devised for compounds of this type. Freudenberg and Rogers (Fordham Univ.) have now investigated the mixture of residual bases remaining from the commercial production of aconitine and have isolated two new alkaloids, neoline and napelline, besides small amounts of 1-ephedrine and sparteine, alkaloids more readily obtained from other sources. Interest in the new bases derives from their low oxygen content which may make them more suitable starting products for structure determinations in the aconitum group than is aconitine. This and other reports of the isolation of new alkaloids serve to emphasize the fact that new and in some instances important alkaloids are being discovered more rapidly than their chemical structures are being determined. Opportunities for organic chemical research in the field of the alkaloids are numerous, and the results would be of both theoretical and practical interest.

CONSTITUENTS OF ROASTED COFFEE

A reinvestigation of the volatile substances present in roasted coffee has been undertaken by Johnston and Frey (Fleischmann Laboratories, Standard Brands, Inc.) in order to provide a basis for devising means of retarding the staling of this product. By low pressure distillation a mixture of substances having a strong odor was obtained. The compounds identified in this mixture include diacetyl, furan, furfural, furfuryl alcohol, acetaldehyde, pyridine, hydrogen sulfide and methylacetylcarbinol, the last named compound being observed for the first time. *It was concluded that the staling of coffee is probably due to changes in or loss of these and other volatile substances rather than to fat rancidity.* It is astonishing that a mixture of substances most of which alone have far from pleasant tastes or odors can, when present in small amounts, give a pleasing effect.

STEROIDS: SEX HORMONES, BILE ACIDS, ETC.*

During 1938 some 50 papers on steroid research appeared in the three leading American journals. Obviously it would be impossible to cover these papers thoroughly; only a few significant advances can be mentioned.

Perhaps the outstanding development in chemistry of sterols in 1938 was the proof by Wallis (Princeton Univ.) of his previously proposed structure for i-cholesterol and its ethers. The ketone, i-cholestenone, reacted with hydrochloric acid to give 6-ketocholestyl chloride, indicating that the formation of i-cholesterol involves a shift of the hydroxyl oxygen from C-3 to C-6. Considerable interest in the chemistry of phytosterols is indicated by the large amount of work done on these. The identity of β-sitostanol, stigmastenol, spinastanol and fucostanol was shown by the work of Larsen (Univ. of Rochester) and of Marker (Pennsylvania State College). The latter studied the chemistry of sitosterol and stigmasterol quite extensively, including the preparation of the corresponding -enones, allo-sterols, *epi*-sterols, chlorides, and 4- and 6-hydroxy derivatives obtained by selenium dioxide oxidations. The preparation of β-sitosterol by the partial hydrogenation of stigmasterol was accomplished by Wallis. Bergmann (Yale Univ.) studied 2, 4-cholestadiene, and its peroxide, and found that the latter undergoes rearrangement to an as yet unidentified isomer. He also suggested that cholesteryl chloride has the structure of the chloride corresponding to allocholesterol rather than cholesterol. Finally Link has prepared the methyl triacetylgalacturonides of ergosterol, cholesterol, and sitosterol.

The first attempt at a synthesis of compounds which could be degraded to cortical steroids was described by Marker; 3, 11-dihydroxy-12-ketocholanic acid was prepared by the bromination and hydrolysis of 3-hydroxy-12-ketocholanic acid, but attempts to convert it to 3, 11-dihydroxycholanic acid were unsuccessful. Other studies in the bile acids include the degradation of desoxycholic acid by Hoehn and Mason (Mayo Foundation), the preparation of conjugated bile acids by Cortese (Presbyterian Hospital) and the preparation of 3, 7, 12-trihydroxy-23-amino-nor-cholane by Caldwell (Temple Univ.).

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* The author is indebted to Dr. Elmer J. Lawson, Pennsylvania State College, for preparing this section.

The structure of the side chain of the sapogenins was investigated in the case of sarsasapogenin by Fieser (Harvard Univ.) and in the case of cholorgenin, by Noller (Stanford Univ.). In each case oxidation of the acetylated genin leads to the formation of an acetylated C_{22} lactone and an acetylated C_{27} acid ("—genoic acid"). Noller also made surface film measurements on chlorogenin and echenocystic acid. The former appears to have its two nuclear hydroxyls in different rings, while the latter appears to be closely related structurally to the triterpenoid hederagenin.

Much work, chiefly by Marker and his group, has been done on the steroid content of various urines. Mares' urine has been found to contain the pregnanediols, a small amount of keystones, pregnanediol, some new estrogenic phenols and some pregnanetriols. One of the latter, pregnanetriol-B, was further investigated by Marker and by Marrian, but the evidence in regard to its structure is conflicting. The other triol, unranetriol, has been found to be 9-β-pregnanetriol-3, 11, 20, and so is of great interest both because of its possible relationship to the cortical steroids, and because it is the first to be isolated of an entirely new series of steroids which are inverted at C-9, and which possess C-11 oxygen atoms. Since the isolation of unranetriol, a number of related compounds such as uranol-11-one-3 and unranediol-3, 11 have been found or prepared from it. Other investigations of urinary steroids include the studies by Marker of the steroid content of stallions' urine, cows' pregnancy urine and the 3- -hydroxy-steroids in human pregnancy urine. The isolation of two isomeric estranediols from human non-pregnancy urine, and of a pregnanetriol-3, 17, 20, and two stereoisomers of androsterone from the urine of a woman afflicted with an adrenal tumor have thrown considerable light on the course of the utilization of the various hormones in the organism. These studies have culminated in a new theory of the biogenesis of the steroidal hormones. Briefly, Marker assumes that both the sex hormones and cortical steroids arise from a common precursor, rather than from cholesterol as previously believed.

Synthetic researches in the sex hormone series include a new preparation of *allo*-pregnanol-3-α-one-20 and of some enol ethers by Schwenk (Schering Corp,), comprehensive study of the preparation of the isomeric pregnanolones and pregnanediols by Marker, and the preparation of some derivatives of pregnanol-3-α by the same worker. New light on the synthesis of estrone was shed by Wallis' demonstration that epi-neoergosterol acetate on oxidation does not give estrone, and by Markers' study of the reduction of equilenin to estrone and neutral products.

Summarizing these investigations it may be said that the outstanding achievements of the year were the proof of the structure of i-cholesterol, the elucidation of the stereochemistry and preparation of the stereoisomeric pregnanediol derivation, the discovery and proof of structure of uranetriol, and the investigations of the steroids present in urines, the latter culminating in a new and apparently consistent theory of the biogenesis of the steroidal hormones.

CHEMICAL NATURE OF LUBRICATING OILS

The separation and identification of the compounds present in petroleum has proved to be an exceptionally difficult problem on which only recently has an adequate start been made. In a careful study of the composition of lubricating oils Mair, Willingham and Streiff (National Bureau of Standards) identified several types of hydrocarbons. The material studied came from a mid-continent crude obtained in the South Ponca City (Oklahoma) field. After removal of the asphaltic and wax constituents, about 60% of the material consisted of "naphthenes with from one to three rings per molecule." The other 40% was made up of compounds containing one, two or more aromatic rings and one or two naphthenic rings per molecule.

NEW SYNTHETIC FIBER

What promises to be an exceptionally important development in the textile industry is outlined in a patent granted to the late Wallace Hume Carothers and assigned to the E. I. du Pont de Nemours and Co. Condensation of a dibasic acid with a diamine gives long chain polyamides from which fibers having remarkable properties can be obtained. Textile goods made from these fibers are expected to replace a substantial amount of the silk now imported. The fibers in large size are already on the market in one brand of tooth brush.

ELECTROCHEMISTRY

By Colin G. Fink

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GOVERNMENT SURVEY

On account of the large scale government development of hydroelectric power, notably in the Pacific Coast States, the Federal Power Commission made a thorough investigation of the use of electric power in the electrochemical industries. During the summer of 1938 a detailed report[1] was published including valuable tabulations, charts and other illustrations. Of particular interest are the data showing the growth of the electrochemical industry, in particular during the last 40 years. Products such as calcium carbide, calcium cyanamide, electric alloys, artificial graphite, electrolytic zinc and cadmium were unknown 40 years ago. Others such as aluminum, magnesium and chlorine were struggling hard for existence at the time. Whereas other industries such as the glass industry or the paper industry are thousands of years old, the electrochemical industry spans less than two generations.

ELECTRODEPOSITION

Interest continued in the electrodeposition of maganese metal but as yet no commercial plant is in operation for the electrolytic recovery of manganese from low grade manganese ores. The two university laboratories of Maine and Columbia and the Government laboratory at Reno, Nev. were the three chief contributors towards further development of "Electromanganese". Attention was mainly centered on the persistent objection by the steel companies to manganese metal in place of ferro-manganese as an addition to steel. Plans are underway, however, to convert the electromanganese into ferro-manganese. At all events, it appears possible now to supply the steel industry with manganese derived from native ores in the event of war and inability to import manganese ore from South Africa, Brazil and elsewhere. The electrolyte so far found most suitable, contains, besides sulfuric acid and manganese sulfate, a rather high percentage (20%) of ammonium sulfate.

Archer E. Wheeler and Henry Y. Eagle, American engineers, reported at length upon the construction and complete installation of the first African copper refinery (at Nkana). The plant has a capacity of 100 tons of pure electrolytic copper per day. The cost of the plant was approximately $2,000,000.

An outstanding report in the field of electroplating is that of Li Chi Pan on the effect of the addition of ammonia to cyanide brass solutions. Yellow brass deposits were obtained far beyond the range possible with ammonia-free cyanide plating baths. Furthermore, the zinc-copper ratios of electrodeposited brasses, in general, do not conform at all with the ratios for brasses prepared by melting zinc and copper together. There are many alloys, other than brass, composed of a wide variety of metals that can be made by electrodeposition and yet cannot be made by the older methods of melting the constituents together.

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[1] "Power Requirements in Electrochemical, Electrometallurgical and Allied Industries." For sale by the Federal Power Commission, Washington, D.C. Price $1.00.

W. J. Travers has developed a method of obtaining good, adherent electrodeposits of various metals upon aluminum and aluminum-rich alloys by first giving the aluminum surface an anodic treatment in oxalic acid followed by a short treatment in sodium cyanide solution and finally a flash of nickel. Thereafter electrodeposits of chromium, copper, silver, or other metal can be applied according to standard practice of plating on brass or steel.

Reports were published by the American Silver Producers Research Association on various investigations carried out with a view of extending the use of silver. In the electrochemical investigations tests were made on the electrodeposition of silver and silver alloys by F. C. Mathers and associates at the University of Indiana and by Colin G. Fink and V. de Marchi at Columbia University. The latter investigators definitely established that good adhesion of silver electrodeposited on steel is possible and that this adhesion can be attributed to the formation of silver-iron alloys at the interface. This alloy bond is visible under the microscope, in particular after heat treatment in the absence of carbon and oxygen. The silver-iron alloys, they find, are similar to the copper-iron alloys.

The hard, wear-resistant surface of chromium plate has led to a widespread use of chromium plated steel bearings, cans, cylinders, shafts, etc.

ELECTRO-ORGANIC CHEMISTRY

A new committee headed by Professor H. Jermain Creighton of Swarthmore College was appointed by the National Research Council for the purpose of furthering interest and development in the study and commercialization of electro-organic processes.

Fink and Summers reported at length upon a cheap, practical, electrolytic method of converting glucose into gluconic acid, an important pharamaceutical product. Palfreeman and Knibbs developed a diaphragm-free electrolytic cell for the production of quinone, using benzene and a lead anode. The production of sorbitol from glucose is now being carried out commercially by the Atlas Powder Co. The basic patents are those of H. Jermain Creighton. Sorbitol is a valuable moistening and softening agent. It is also the raw material for making ascorbic acid (vitamin C). Besides sorbitol, the company manufactures mannitol, which is subsequently converted by nitration to a valuable explosive.

The General Electric Company has perfected a process of annodically depositing thin films of resin on metals or into and on fabrics from aqueous alkaline solutions of natural resins. Thus, for example, shellac may be deposited on aluminum with the simultaneous formation of an oxide film on the surface of the aluminum.

ELECTRIC FURNACE PRODUCTS

Patents were issued to the American Magnesium Metals Corporation for the electric furnace production of magnesium metal in contradistinction to the old and well established process at Midland, Mich. of electrolyzing a molten bath of magnesium chloride.

The National Carbon Company marketed a new fabricated porous carbon product whose pore characteristics are closely controlled during manufacture. The porous carbon plates, tubes, etc., may be graphitized if necessary. The new product will undoubtedly find wide application in diffusers, filters and aerators.

Ralph B. Stitzer developed a process for the electrical carbonization of coal. A mixture of carbon monoxide and hydrogen is passed over coking coal which is electrically heated. The volatile carbonization products formed are continually withdrawn. A decided saving in operating cost and raw material is effected when this new process is compared with older processes.

ANODIZING

The anodic treatment of aluminum and aluminum-rich alloys to render the surface more resistant to oxidation and wear has been now developed on a large commercial scale. Besides the 5 per cent sulfuric acid solution originated by L. C. Pan and now commonly used as the anodizing solution, a number of new solutions have been proposed, notably one containing alkali fluorides. Another is a solution of oxalic acid in glycol.

Similar to aluminum surfaces, magnesium surfaces can be anodized, for example, using the alkali fluoride bath. Other solutions suitable for magnesium are those of alkali permanganates, chromates and silicates.

ELECTRIC DISCHARGE THROUGH GAS

Improvements in the electrical precipitation of dust particles suspended in dry gases emanating from metallurgical furnaces comprise the introduction of a hygroscopic salt such as magnesium chloride into the furnace charge. The salt is volatilized and escapes from the furnace with the dust. The quantity of magnesium chloride introduced into the charge is relatively small so that the normal operation of the furnace is not affected.

Extensive research has been carried out on the formation and dissociation of various chemical compounds, both organic and inorganic, introduced into electric discharge tubes. Evidence is accumulating to support the view that combinations and dissociations may be brought about at tube temperatures below 100° Centigrade whereas heretofore temperatures of 1,000° C. or above were considered essential.

Development of the fluorescent lamps proceeded at a rapid pace. The Westinghouse Company marketed a new "Sterilamp," a convenient and efficient gaseous discharge lamp for the sterilization of foods, public drinking glasses, etc.

In the tungsten incandescent lamp field. Birdseye, of frozen foods, marketed a lamp with an inside silver reflector. Another new tungsten lamp is gas filled with a mixture composed approximately of 70 per cent krypton (a very rare heavy gas of the atmosphere), 20 per cent argon and 10 per cent nitrogen.

Cathodic sputtering for the production of metal mirrors is rapidly replacing the older wet process methods. A new "vacuum" switch was developed by the General Electric Company. The problem of interrupting electric current circuits was to eliminate the arc and its destructive consequences. Accordingly, by avoiding the presence of any ionizing agent in this enclosed switch, no arc is formed. A spark between molybdenum metal electrodes is initiated; the heat of the spark liberates molybdenum metal vapor which ionizes but is rapidly dispersed since there are no restraining gas molecules present. Consequently, by the time the contacts have separated by as little as a very small fraction of a millimeter, the circuit is broken. The switch is rated to interrupt eight amperes at either 125 volts direct current or 250 volts alternating current.

RECTIFIERS

Rectification of alternating into direct current is now brought about so quietly and so efficiently by dry plate stationary equipment as compared with older rotary equipment, that the demand has grown for larger and larger units. The cuprous oxide rectifier is now available in 3,000 ampere units. In some of the new dry rectifiers, films of selenium or selenium sulfide serve as the active rectifying agent. Many of the new electroplating plants are equipped with the dry plate rectifiers.

DIELECTRICS

In October, 1938 the Electrochemical Society staged a symposium on the new plastics, in particular those plastics suitable for electrical insulation and similar purposes. A number of the new plastics are displacing well known dielectric materials such as rubber and shellac at a considerable saving in the cost of final product. The plastic industry is ready to comply with almost any specification laid down by the electric engineer.

PERIODICAL PUBLICATIONS

American Physics Teacher
American Institute of Physics, 175 Fifth Ave., New York City.

Chemical and Metallurgical Engineering
330 West 42nd. Street, New York City.

Chemical Engineering Catalogue
330 West 42nd. Street, New York City.

Chemical Industries
25 Spruce Street, New York City.

Chemist (The)
233 Broadway, New York City.

Industrial and Engineering Chemistry
Mills Building, Washington, D.C.

Journal of the American Chemical Society
Easton, Pa.

Journal of Chemical Education
11 West 42nd. Street, New York City.

Journal of Chemical Physics
175 Fifth Ave., New York City.

Journal of Mathematics and Physics
Massachusetts Institute of Technology, Cambridge, Mass.

Journal of Physical Chemistry
Mount Royal and Guilford Aves., Baltimore, Md.

Nature
295 Madison Ave., New York City.

Physical Review
175 Fifth Ave., New York City.

Physics
175 Fifth Ave., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Chemical Society, 728 Mills Bldg., Washington, D.C.
American Electrochemical Society, Broadway and 117th Street, New York City.
American Institute of Chemical Engineers, Bellevue Court Building, Philadelphia, Pa.
American Institute of Physics, 175 Fifth Ave., New York City.
American Microscopical Society, Kansas State College, Manhattan, Kan.
American Physical Society, Columbia University, New York City.
American Society of Biological Chemists, State University of Iowa, Iowa City, Ia.
Association of Official Agricultural Chemists, Box 290, Penn. Ave. Station, Washington, D.C.
Copper and Brass Research Assn., 420 Lexington Ave., New York City.
National Research Council, 29 W. 39th St., New York City.
Society of Chemical Industry, Pratt Institute, Brooklyn, New York City.
Synthetic Organic Chemical Manufacturers Assn., 260 W. Broadway, New York City.

DIVISION XXII
BIOLOGY

ORGANIC EVOLUTION AND GENETICS

By Myron Gordon

Fellow, John Simon Guggenheim Memorial Foundation

GENETIC STUDY OF NATURAL POPULATIONS

In two contributions to the genetic study of natural populations, Dr. Th. Dobzhansky and M. L. Quail analyzed both the chromosomal variation and genic variation in populations of *Drosophila pseudoobscura* inhabiting isolated mountain ranges. Their findings are recorded in *Genetics* for 1938 (23:239–251 and 463–484). They first collected samples of populations of the insects inhabiting island-like mountain forests in the Death Valley region of California and Nevada, a region especially favorable for their purposes, they say, because it is as yet practically undisturbed by man. Samples were taken at 11 localities by means of fly traps baited with fermenting bananas.

The authors found three different gene arrangements in the third chromosome present in every population studied. The difference between these arrangements is due to inversion of chromosome sections. Inversions, heterozygotes and homzygotes are present in every population in theoretically predictable proportions. The relative frequency of each arrangement varies from locality to locality. Only three out of eleven localities are inhabited by populations that seem to be identical with respect to the relative frequency of the gene arrangements. Populations inhabiting adjacent localities are no more likely to be similar than populations from remote ones. They conclude that the rate of migration of flies between localities is small; the genetic composition of the population inhabiting different localities may drift apart in the course of time. With regard to a certain proportion of the population that exhibits a special sex ratio associated with the X chromosome, there seems to be a slight correlation between the frequency of the sex ratio and the elevation of the locality above the sea.

In their analysis of the genic composition of isolated races of *Drosophila pseudoobscura,* they found a high degree of variability with respect to gene arrangements as well as gene contents of the chromosomes. The external uniformity of wild populations of this fly is spurious since it conceals a wealth of recessive variations carried in a heterozygous condition. In populations from the Death Valley region 11.9 per cent of wild third chromosomes carry lethals; 3.1 per cent carry semilethals and about 39 per cent carry deleterious genetic factors having too slight an effect to be classified as semi-lethals; about three per cent carry factors which increase the viability above the average. Furthermore, no less than 3.5 per cent of the wild third chromosomes contain recessive mutant genes with visible external effects, and a fraction which can not yet be estimated quantitatively contains genes modifying the developmental rate. It is very probable that further studies would detect other genetic variations affecting other characters, such as fertility, length of life, etc. The ten samples from differing localities all behaved essentially alike, giving the authors reason to believe that the conditions found in these samples are universal, at least for individuals of populations of *Drosophila pseudoobscura.*

Some biologists have put forth assertions that genetic varaitions of the mutation type are laboratory products and do not occur at all or at least are very rare and abnormal in the natural state. Such assertions are now untenable. This work and the work of others listed in their paper indicate that 50 per cent of wild third chromosomes carry recessive genes and few wild individuals are free of mutational changes. Dobzhansky and Quail say that such a situation is not unexpected. Indeed, they claim that the well known theory of inbreeding and heterosis advanced by G. H. Shull and East and Jones implies that most individuals of a cross-bred species carry some deleterious recessives in heterozygous condition. Their observations, the authors of these two papers say, constitute perhaps the best evidence on record in favor of this theory. Evidence of this normal viability of a species is largely a result of heterosis. This raises numerous problems regarding the mechanics operating in a wild population to maintain these heterosis effects. How frequently are individuals homozygous for this deleterious recessive produced in nature? This is the most pressing question, and they are studying this problem.

Professor Theodosius Dobzhansky and co-workers at the California Institute of Technology at Pasadena are continuing their analysis of the genic and chromosomal differences between closely related species of Drosophila and between geographically isolated races within a species. One of these studies was conducted by Professor Dobzhansky with his colleague, Dr. A. H. Sturtevant. Their contribution is entitled "Inversions in the chromosomes of *Drosophila pseudoobscura*" and appeared in *Genetics* for 1938 (23:28–64). They state their problem as follows: The linear arrangement of genes within chromosomes is constant from generation to generation in each line of descent. The degree of this stability is comparable to that of the gene structure; genes change by mutation, chromosomes change by the occurence of chromosomal aberrations. Strains and races of the same species, as well as distinct species, may differ in gene arrangement. Strains of *Drosophila melanogaster* coming from the same or from a distinct geographical locality may differ in having blocks of genes rotated by 180°; this is known as an inversion.

The authors compared the gene arrangements in the chromosomes of *Drosophila pseudoobscura* coming from different geographical regions. They found that the third chromosome of the five is the most variable. Each gene association occurs in a definite geographical area. Some arrangements have been recorded, so far, only in a single locality, while others are distributed fairly widely. In many localities the populations are mixed, four or more gene arrangements being present.

A chromosome once changed by an inversion may undergo another change due to a second inversion. These subsequent changes can be followed and are important in tracing the historical events leading to the end-product.

Under the sub-head reading "Compartive genetics of the swordtail and the platyfish" of the paper entitled "Genetics of Xiphophorus hellerii", Myron Gordon lists five genes that have somewhat similar action in two closely related Mexican fishes. Those genes that are designated to represent the development of red body color and large black pigment cells are sex-linked in Platypoecilus and in Xiphophorus. The gene associated with the development of small black pigment cells is autosomal in each species. The gene for crescent and twin-spot patterns form an allelic series in both species. In Platypoecilus the gene for small pigment cells interacts with the sex linked gene for large black pigment cells. The same is true for Xiphophorus. Gordon concludes that there is considerable evidence to demonstrate a close, fundamental, genetic relationship between the swordtail and the platyfish. His paper was published in *Copeia* (March 31: 1938, 19–29).

EVOLUTIONARY PHENOMENA IN NATURE

In their quest for interpretation of evolutionary processes in organisms, the geneticists are leaving the laboratory to collect data on evolutionary phenomena as expressed in nature. Subsequently, such material as necessary is brought back to the laboratory for closer study. Data of great interest to geneticists are often gathered by other biologists. Dr. Reeve M. Bailey of the Iowa State College and Karl F. Lagler of the University of Michigan discovered a high degree of natural hybridization in nature of three species of sunfishes in a small lake in New York State.

The pond was of recent origin (1917), being formed by damming a small tributary stream of the Pocantico River. Its area is about 15 acres and it is relatively shallow, with gravel shoals of limited space. The spawning beds are not sufficient for the needs of all the sunfish and this probably accounts for the lack of normal ecological segregation of the species. Consequently this situation is most favorable for the production of an abundance of hybrids. So numerous were the sunfish in this pond that overcrowding was responsible for a definite condition of stunting among all the species. This stunting force had its effect upon hybrid sunfish as well as the pure species. Hybrid vigor was not expressed clearly.

The sunfish species studied were *Apomotis cyanellus, Eupomotis gibbosus* and *Helioperca macrochira,* and the hybrids were *Apomotis* X *Eupomotis, Apomotis* X *Helioperca* and *Eupomotis* X *Helioperca.* While there was a slight preponderance of males in the pure species, the preponderance of males in the hybrids was striking, 80 per cent in one hybrid combination and over 90 per cent in the other two. These hybrid males are sterile.

One of the most interesting discoveries made in a study of these three types of hybrids is that there is apparently no discrimination among the parents in their mating habits. The number of the three kinds of hybrids is in direct proportion to the total population of each of the three pure species.

In general the hybrid sunfish show the effects of blending inheritance. Some of the conspicuous color markings characteristic of certain species appear to be recessive but only partially so. Most structural characters such as size and proportional parts display almost perfect blending effects, although a morphometric study of the pectoral fins indicate that hybrids have a number of rays higher than either parent.

While hybridization is an extremely common phenomenon in this pond, for about 11.7 per cent of the total population are hybrids, because of the sterility of the hybrids, no new race of species of fish is produced. Full details of the work of these investigators have been published in the *Papers* of the Michigan Academy of Science, Art and Letters for 1938 (23:577–606).

As Dr. M. M. Rhoades, geneticist in the Division of Cereal Crops and Diseases of the Bureau of Plant Industry (U.S. Department of Agriculture) points out: "The mechanism through which sudden changes in genes, that is mutations, are produced have long been of interest to the geneticist." Since these changes are the basis for evolutionary processes, they are also of vital importance in evolutionary theory. Dr. Rhoades has attempted to obtain some insight into the nature of the mutation process and two methods of approach have been most commonly employed. One of these is the study and analysis of mutation induced by irradiation and the other is the study of the so-called mutable genes or genes with high rates of spontaneous mutation. While there is no factual basis for believing that mutable genes differ from more stable ones save in their mutation rates, nevertheless, there is the possibility that they constitute a distinct class in themselves and any conclusions reached about them may not be applicable to more stable genes.

Dr, Rhoades' paper which appeared in *Genetics* for 1938 (23:377–397) describes the mutable gene Dt, the complete title of which is "Effect of the Dt gene on the mutability of the a_1 allele in maize." While a_1 has a low spontaneous mutation rate in the presence of the recessive dt, it becomes highly mutable with the dominant Dt (a_1 is one of a number of interacting genes responsible for purple aleuron color, the AB and Pl of Emerson).

In his discussion Dr. Rhoades says that his data have some bearing on the nature of gene mutation, especially since Goldschmidt has recently promulgated the revolutionary view that mutations are a consequence of position effects. It has been held that mutable or unstable genes constitute a class distinct from stable genes; that their relatively high mutation rate springs from some pecularity in their structure and, therefore, that any conclusions reached with mutable genes concerning the nature of gene mutation may not be applicable to mutation phenomonon in general. In as much as mutable genes offer many advantages for the study of the mutation process, it is desirable to ascertain whether there is a fundamental difference between stable and unstable genes.

Some of Dr. Rhoades' findings are as follows: there is evidence from cytological observations of microsporocytes of plants carrying Dt in the heterozygous condition that there are no chromosomal abnormalities involved; there are no differences in "stainability"; there are no chromosomal trans-locations or ring chromosomes in the Dt line. The Dt gene remains unaltered when a mutation of a_1 takes place. The loci of Dt and a_1 show independence in inheritance. These and other observations speak against position effects as the explanation for unstable genes.

The work of Demerec on unstable genes is reviewed. Dr. Demerec, the vice-director of the Carnegie Institution of Washington's Genetics Department at Cold Spring Harbor, advanced the view that changes or mutations in unstable genes are produced by a chemical process rather than through some mechanical shifting or rearrangements of chromatin. And Dr. Rhoades believes the work on the Dt gene may be further evidence of this concept. From his work on maize, he claims that there is no support for the position-effect hypothesis as the cause of mutability of a_1 in the presence of Dt. The Dt gene remains unaltered when a mutation of a_1 takes place.

SURVIVAL VALUE OF PROTECTIVE COLORATION

There has been a modern revival of interest in the survival value of protective coloration among animals. Since Dr. F. B. Sumner of the Scripps Institute of the University of California at La Jolla, applied the experimental methods to such studies with fishes beginning with 1934, others have taken up the work, applying the principles to other groups of animals. F. B. Isely of Trinity University at Waxahachie, Tex. tested variously colored grasshoppers on a multicolored checkerboard-divided plot of ground against the predatory eyes of food-seeking bantam fowls. The details of his experiments have been published in the magazine *Ecology* (19:370–389, 1938) which is devoted to the study of all forms of life in relation to the environment. Isely's conclusions are as follows: concealing coloration protects the animal possessing it; cryptic coloration protects prey (grasshoppers) from their predators (fowl), since the birds intent on securing insect food often failed to see and repeatedly passed over protectively colored grasshoppers, while the non-protected were consistently eaten. Another point that Isely makes is that a conspicuously colored grasshopper that is wholly inedible to fowl is consistently avoided after an initial trial. The grasshopper, *Dactylotum pictum,* is gaudy, being mottled black, red, cream, yellow, green, and brown. This striking color and its inedible qualities characterized it as one possessing warning coloration. Isely says that his experiments show that warning coloration appears indubitably to have survival value. His final conclusion is that there can be no doubt as to the natural selection value of protective coloration.

THE NATURE OF ORGANIZING ACTION

In his vice-presidential address before the Section of Zoological Sciences of the American Association for the Advancement of Science at Indianapolis, Dec. 29, 1937, Dr. Ralph S. Lillie, professor of biology at the University of Chicago emphasized the concept of life as fundamentally a process of synthesis and integration. In the organizing process, materials randomly distributed in the environment are assembled and unified to form the living animal or plant. This process has as its prerequisites (1) constancy in the properties and modes of interaction of the materials, and (2) constancy in the activity of the special vital factors which control or direct the integration. These vital factors are not to be identified completely with purely physical factors.

In his summation Professor Lillie says in part: "The present evidence indicates that the specific characters of a given ontogeny are to be referred for their ultimate physical basis to stable and specific types of molecular structure present in the germ at the beginning of development. This structure (developed by degrees in the evolutionary history of the species) appears to be that of certain nucleoproteins in the germ nuclei, *i.e.* the genes. The analogies, chemical and biological, between genes and ultra-viruses are pointed out; there follows a brief discussion of the possible relations between protein structure and the determinative role assigned to genes in development. The course of development depends for its stability and its special character on the specific molecular structure of the gene proteins. These are reduplicated automatically in each cell-division and normally are passed on unchanged from generation to generation. But if their structure is altered, *e.g.* by slight positional or substitutional changes in the determining groups, corresponding changes in the course of development may result such as artifically induced or spontaneous mutations (*American Naturalist,* 72:389–415, 1938).

In his lecture delivered before the Genetics Society of America and Marine Biological Laboratory at Woods Hole Aug. 30, 1937 (published in the *American Naturalist* 72:5–23, 1938), Dr. Boris Ephrussi, co-worker with Professor George W. Beadle of Leland Stanford University on studies of the physiology of gene action by means of transplantation in Drosophila, stated in his opening remarks: "What geneticists want to know is what a gene is and how it works. If we knew what a gene is, we probably could find out easily how it works; and if we knew what the mechanism of gene action is, we would probably be able to predict, to some extent at least, its structure."

Dr. Ephrussi has chosen to find out what the gene is by finding how it works. The complete details may be found in the citation given above. His summary is as follows: "In the cases studied the genes produce their effect by means of special substances or hormones, produced in specific organs at specific times. These substances, highly specific in their effects, but not species-specific, affect definite organs at definite developmental stages. The effects of these substances are proportional to their concentration. The substances are not merely conditions of definite reactions. Their chemical study, just started, shows that they are not enzymes, not fats, and not proteins in the ordinary sense. It is possible that they are very closely related to the constituents of the chromosomes."

Dr. David H. Thompson, naturalist of the Illinois Natural History Survey, has in the past contributed some thought-provoking ideas on the natural history of the gene. In the *American Naturalist* for 1938 (72:53–58) he states; "If we look on the process by which a gene gathers and assembles the material for an additional gene as nutrition, then the possibility of starvation of the gene naturally suggests itself." The title of his speculative essay is "One gene starvation." Dr. Thompson continues: "We may say a gene has a complete diet when its different components are available in sufficient numbers to build a counterpart. A gene is starved when it can not collect all the parts for another identical gene between two successive divisions of the gene strand. If unmutated genes are fixed in structure and composition, then a daughter gene lacking one or more parts is genetically different and may be expected to produce a phenotypic change in the cells or individuals carrying it. If a daughter gene is complete at the time of chromosome division, then one of three things seems certain to happen: (1) it will go on without the missing part and behave as a mutant alleomorph to the parent gene; or (2) it will substitute something else for the missing part and continue as another mutant alleomorph; or (3) it will disintegrate or fail to divide and constitute a gene difficiency. All three of these possible fates of a starved gene may be expected to produce effects which are already very familiar to geneticists."

Dr. Thompson carries his speculations on the nature of the gene and the possible force of starvation upon it into the field of development of of the organism, the relationship of embryology and genetics, somatic changes and related phenomena.

From his work on animal aggregations, popularly known as studies in the social life of animals, Professor W. C. Allee of the Zoological Department of the University of Chicago has made several contributions to the subject of organic evolution. One of his conclusions is that different species seem to have different minimum populations below which the species can not go with safety, and that in some instances this is considerably above the theoretical minimum of one pair. He gives the history of the closing years that led to the extinction of the heath hen in what seemed to be ideal conditions for it in a reservation properly wardened and properly freed of predators.

Some of Dr. Allee's statements of the genetic control of survival may be expressed this way; the environment is in a state of constant flux and its progressive changes, whether slow or fast, make the well-adaptive types of the past generation into misfits under present conditions. The result may be rectified either by the extinction of the species, if it is not sufficiently plastic, or through reorganization of the hereditary types. In such a reorganization the simple Lamarckian reactions apparently do not operate; that is to say, when confronted with new, critical conditions, species can not go to work and produce needed changes to order. The reactions are much more complicated than that and Professor Allee, in his new book, *The Social Life of Animals* (W. W. Norton, New York), outlines the method in force.

EVOLUTION OF CAVE FISHES AND THE LOSS OF EYE-SIGHT

With the discovery of five new forms of cave fishes living in the dark cenotes on the Yucatan Peninsula by the scientists acting for the Carnegie Institution of Washington, Professor Carl L. Hubbs, Curator of Fishes of the University of Michigan, reviews the problem of the evolution of these cave forms. One general characteristic of the fishes of this type of environment where darkness prevails is the partial or total degeneration of eye-sight. Some of Professor Hubb's general remarks are as follows:

"The not infrequent finding of strays of free-living species in caves shows that caves are very frequently populated with a nucleus from which cave species could theoretically evolve. There is little ground for supposing, however, that mere accidental strays have become modified into cave types, for such strays would not likely have been common enough to have formed a breeding stock or would not have found conditions suitable for reproduction or for the occupation of a cave with sufficient permanence to allow for the requisite mutation and evolution. The fact that cave animals as a whole are related to forms preadapted to life in darkness, with nocturnal, burrowing or crevice-seeking habits and with tactile and other senses well developed as if in compensation for a weakening of vision, indicates that only preadapted strays, if any, have evolved into typical cave forms."

In another portion of his report entitled "Fishes from the caves of Yucatan" which appeared in the Carnegie Institute of Washington *Publication No. 491* (261–295), 1938, Dr. Hubbs makes this suggestion: "The simplest explanation for the degeneration of eyes and color in animals living in darkness would seem to be the mere survival of mutations of loss because of the release of ordinarily stringent selection. It is well known that highly complex structure and particularly the eyes are relatively often subject to such mutations. . . . In time with repeated mutations of loss and in the absence of selection, it would be possible for an animal to attain blindness and lack of color." There are case histories on record where different groups exhibit different pigmentary responses to light and dark. Dr. Hubbs ends his discussion with this comment: "It is indeed timely to subject to modern biological thought and experiment the whole problem of the degenerative evolution which takes place under the release of selection pressure in such environments as caves."

SEXUAL SELECTION

From the Laboratory of Experimental Biology at the American Museum of Natural History in New York City, Dr. G. K. Noble has announced that, from his work with the jewel fish, he has obtained evidence for typical sexual selection in the Darwinian sense of female choice of males. His report in 1938 published in *Biological Reviews* (13:133–158) contains a critical review of some 100 papers referring to sexual selection among fishes. Dr. Noble introduces his subject by saying that many fishes exhibit a striking sexual dimorphism. Nevertheless, Dr. Noble says, most students of the group have failed to find evidence that sexual selection has played a part in the genesis of these differences. In recent years many aquarium fishes have been under close observation, yet the principle of sexual selection has not been applied to their activities. The explanation Dr. Noble offers is this: sexual adornment in fishes may have several functions, and it is often difficult to determine its particular function in any one group.

Some of Dr. Noble's conclusions are as follows: the jewel fish female, ready to spawn, will select the most highly coloured of several possible mates. This selection will be made when only visual clues are available to her. Although female choice has played a role in the development of sexual adornment in fish, nuptial colors may have several functions: they may serve to threaten rivals or enemies; they may emphasize gestures which are essential to the formation of nuptial bonds; as a result of learning, nuptial colors may serve to identify sex and thus increase the efficiency of breeding behaviour; and lastly, nuptial colors may aid young fish to learn to distinguish their parents from adults of related species.

A further discussion of sexual selection has been written by Dr. Julian S. Huxley of the Zoological Society of London in the *American Naturalist* (72:416–433, 1938) under the title of "Darwin's theory of sexual selection and the data subsumed by it, in the light of recent research."

ADAPTATION IN THE LIGHT OF GENETICS

Many principles of organic evolution proposed by the old school of naturalists are being given critical analysis by the new school of students of evolution, the geneticists. Professor A. Franklin Shull of the University of Michigan, has reviewed the problem of Adaption in the Light of

Genetics. This review may be found in *Current Science* (March: 31–33, 1938). Professor Shull says that moddern genetics indicates that the bulk of evolution in the higher organisms has consisted of (1) gene mutations or other chromosomal modification, (2) recombinations through biparental reproduction, and (3) preservation and elimination of certain lines of descent. The professor raises this question: Have these processes also led to the obvious and widespread fitness of living things to their environment?

The principal conceivable means of attaining fitness independently of evolution is by migration of organisms to the situations in which their structure and physiology will work best. There are reasons to think, Professor Shull believes, that a certain amount of favorable adjustment has been produced in that way. Yet it is conceivable that adaptation might result directly from the initial changes of organisms. While some mutations have been produced artificially by x-rays and heat, such changes either in the immediate progeny or later progeny do not indicate they are any more useful than random mutations observed without artificial agencies.

How evolution that is adaptive can arise out of mutations which are generally harmful on first appearance in the organisms, or at best neutral, has been puzzling. The work of Dr. Sewall Wright of the University of Chicago is mentioned by Professor Shull to suggest the answer. A gene mutation that is harmful among the genes with which it is first associated, may, through recombination, become associated with others to which its response is beneficial.

Professor Shull suggests a genetic study of the origin of mimicry in insects for the possible light it may throw on the origin of adaptive useful forms. Some mimics have been found to differ from their relatives in one or two pairs of genes. The general concept of such color adaptations has been that they started with slight fortuitious changes, that other similar changes were added to them and preserved because they were advantageous, so the mimicry pattern was attained gradually over a long period of time. This subject requires considerably more work, for at present the little available genetic evidence that bears on adaptation indicates that some of the qualities regarded as adaptive probably are not so; and that those which are adaptive may easily have risen in much more direct manner than has long been postulated.

SEX DETERMINATION

One of the first geneticists in America to speculate about the hereditary control of sex determination was Professor W. E. Castle, then of Harvard University. His present-day views are of particular interest therefore. In his recent paper entitled "Sex and Genes" published in the *Scientific Monthly* for 1938 (46:344–350) Professor Castle introduces his subject as follows:

"Sexuality is one of the most fundamental and general of the peculiarities of living things. In each species of animal or plant there are produced reproductive cells of two different sorts which have an attraction for each other, so that they come together in pairs and fuse, and out of the product of such a fusion develops a new individual of the species."

From his historical summary of views expressed by many biologists and from his own extensive researches, Professor Castle comes to the following conclusions: "Sex is primarily a differentiation, electrical or otherwise, of the soma (cytoplasm) of gametes, which brings those of opposite character together and causes them to fuse. It is in agreement with and may be regarded as dependent upon the somatic character of the parent, being male when the parent is male, female when the parent is female.

"The somatic character of a parent is determined as a feature of the Mendelian inheritance of sex-genes borne in the gametes which unite to produce that parent. In one system of sex determination found in flies and mammals, maleness is dominant in heterozygous unions of sex genes, but in another system found in birds and moths femaleness is dominant in heterozygous unions.

"An exception must be noted in the case of hymenoptera to the rule that sex genes borne in chromosomes (apart from hormone influence) exclusively determine the sex character of an individual. Male somatic differentiation of the unfertilized egg must in this case be ascribed to a male influence of the egg's cytoplasm, which is strong enough to overbalance the female influence of a single set of chromosomes, but is inferior to the female influence of two sets of chromosomes exerted in the fertilized eggs even though one such set was brought to the eggs in the sperm, the somatic character of which is male, though its sex-gene content is female."

EVOLUTIONARY CONCEPTS

From England where Charles Darwin enunciated his theories on the origin of species in 1859, we now have a modern statement on evolutionary concepts as presented in a volume entitled *Evolution* and sub-titled, "Essays on aspects of evolutionary biology." This book of essays was presented to Professor E. S. Goodrich on his seventieth birthday. Dr. G. R. de Beer, Senior Demonstrator in Zoology and Comparative Anatomy in the University of Oxford, explains the idea behind this book. In search for a suitable subject, the suggestion of Dr. Julian Huxley, Evolution, was adopted as being a field in which Professor Goodrich has always been deeply interested and to which so many of his works have made notable contributions.

From an inspection of its table of contents, it may be readily appreciated that even a short summary of each chapter would go far beyond the limits of the present yearly review of advancement in evolutionary concepts. While these essays are contributions from outside the United States, they are so highly significant that this notice of their publication is presented.

The systematist in describing several species of a genus points to discriminating morphological characters to distinguish one species from another. Sometimes the discriminating characters are expressed in quantitative values of certain morphological features. In some instances supplementary evidences from cytology, breeding behavior, geographical distribution aid the systematist in evaluating the distinctness between the species described. To this list Myron Gordon and George M. Smith writing from the Yale University School of Medicine add physiological and genetic criteria as aids in differentiating species.

The main interest of the authors in the paper entitled "The production of a melanotic neoplastic disease in fishes by selective matings; the genetics of geographical species hybrids," published by the *American Journal of Cancer* in the December number of 1938 was the severity and nature of the neoplastic disease that developed in hybrids when different species of the Mexican platyfishes were mated. Gordon and Smith worked with four species of platypoecilus, each species of which lives in a restricted river system. When the most southern spotted platyfish (*P. maculatus*) is mated with the most northern platyfish (*P. couchianus*), representing river systems separated by 1000 miles, the hybrids come down with the most severe form of melanosis that is clearly neoplastic in nature. When the same strain of southern platyfish (*P. maculatus*) is mated with another platyfish (*P. variatus*) that lives in an adjacent river system, separated perhaps by 250 miles, the hybrids indicate the beginning of the development of melanosis but the disease is mild. And lastly when the spotted platyfish (*P. maculatus*) is mated with the sword-bearing platyfish (*P. xiphidium*) that lives about 750 miles away, malanosis in the hybrids is intermediate in severity.

The authors do not enter into the evolutionary significance of their findings since they were primarily interested in demonstrating the force of racial heredity upon the incidence of the neoplastic disease, but it can readily be seen that their work demonstrates differentiation in nature of four species of fishes. Geographical isolation has aided these four species to develop and maintain their racial characteristics. By genetic study, the sum of these differences developed within the species over a long period of time may be evaluated. This is another instance which demonstrates the point that the study of evolution must draw its factual data from a wide range of biological phenomena.

ENTOMOLOGY

By E. Porter Felt

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GENERAL

It is well known that the abundance of insects is materially affected by climatic conditions. The hurricane of Sept. 21, 1938 blew down or seriously damaged appreciable proportions of the shade and forest trees in the northeastern States. This was particularly true of the forest trees. There is little question but that earlier work by various leaf-feeding and wood-boring insects contributed materially to the weakening of shade trees and thus brought about conditions favorable to the destruction of many trees which otherwise would not have suffered greatly from the storm. There is, furthermore, the problem of the weakened and the thrown trees and the conditions so favorable to insect multiplication presented by them. The foresters, recognizing the menace, are attempting to cut and store the down timber before the coming of warm weather with its incident multiplication of dangerous borers. Similar action is especially desirable in the case of elms because weakened trees or parts of trees afford exceptionally favorable conditions for the breeding of the European elm bark beetle. Cleanup work of this character is urgently needed in the entire area infected with the Dutch elm disease. Otherwise there may be a tremendous increase in the numbers of these beetles and a consequently greater probability of wider dissemination of this deadly infection.

There is a decided tendency on the part of economic entomologists and the members of the National Pest Control Association to recognize a community of interests, the former in the belief that here is a somewhat neglected field in which the entomologists can render material service, while the latter are beginning to appreciate to a greater degree the value of applied science in solving the numerous problems developing under modern building conditions. This is suggested by the special session on this subject at the recent meeting of the Eastern Branch.

RESEARCH AND PUBLICATIONS

General entomological work has progressed about as in the years past, each specialist being largely absorbed by his favorite work whether it be taxonomic, namely the classification of insects, biological or the study of their life histories and habits, or ecological, a phase of science which devotes itself to ascertaining the relationship of the organism to its environment. There is an unusually comprehensive and striking study which falls in the last category, namely, the comprehensive discussion of Tsetse flies of East Africa by the late C. F. M. Swynnerton. It is true that this work cannot be classed as American entomology in the strict sense of the word and yet this publication has a world-wide application in the methods adopted and the discussion of the conditions affecting the abundance of an important disease carrier.

The unusual and remarkable among insects and their ways have occupied a relatively large place in the literature of 1938 as attested by two books dealing with this phase of the insectean world. Such works have a distinct and possibly important place in that they arouse interest in a relatively unknown field of science and may lead a genius of the future into one of the more important and entrancing fields of science. An early inspiration may prove a controlling influence.

The more technical phases of entomology are well represented in the extended *List of Insects of North Carolina* which compares well with the much earlier published *Insects of New Jersey* by the late Dr. J. B. Smith and the larger and somewhat recent *List of Insects of New York* compiled by Dr. M. D. Leonard. Even more technical phases are presented by the *Glossary of Entomology* and the *Index to the Literature of Economic Entomology*, a fine convenience well-nigh indispensable to most workers in this branch of science.

MEETINGS

The annual meetings of the National Entomological Societies and their affiliated organizations were generally attended, and the programs included many special and a number of papers of general interest. The American Association of Economic Entomologists with its sections on Plant Quarantine, Apiculture and Extension met at Indianapolis Dec. 27–31. The Cotton States Branch met at New Orleans Feb. 3–5. The Pacific Slope Branch met at San Diego, Calif. June 23–24. The Eastern Branch met at Baltimore, Nov. 17–18 and for the first time there was competition for a gold medal and $75 to be awarded to the writer or writers of the most outstanding paper. The Entomological Society of America also met at Indianapolis Dec. 27–29 and both this organization and the American Association of Economic Entomologists united with the Entomological Society of Ontario in a summer meeting at Ottawa, Canada, June 27 to July 2. The National Pest Control Association met in Omaha, Neb., Oct. 24–26 and delegates from this organization attended the Eastern branch meeting at Baltimore. The third Florida Entomological Conference was held at Gainesville March 17–19. The fourteenth Rocky Mountain Conference of Entomologists was held at Centennial, Wyo. Aug. 14–16. An Eastern Shade Tree Conference was held at the New York Botanical Garden, New York City, Dec. 8–9, a considerable proportion of the program being devoted to a consideration of the part insects played in connection with the hurricane of Sept. 21 and the part they are likely to play as a result of conditions produced by this unusual visitation.

GENERAL WORKS AND JUVENILE TEXTS

The Sacred Bee in Ancient Times and Folklore (Houghton, Mifflin) by Hilda M. Ransome, is a popular historical account of the bee and related folklore. *The Book of Insect Oddities* (Lippincott) by Raymond Ditmars and Helene Carter is a popular work dealing with the unusual in insects. *Strange Insects and Their Stories* (L. C. Page) by A. Hyatt Verill, is a popular and interesting work. *Our Shade Trees* (Orange Judd Co., New York) by E. Porter Felt, is a popular work dealing primarily with tree care and containing much in relation to shade tree insects and their control.

ECONOMIC ENTOMOLOGY

Introduction to Economic Entomology (Russellville Printing Co.) by W. J. Baerg. is a small book dealing largely with southern insects. *Insects of Citrus and Other Subtropical Fruits* (Comstock Publishing Co.) by Henry J. Quayle is an authoritative and comprehensive book. *Recent Advances in Entomology* (P. Blakiston's Sons, Philadelphia) is by A. D. Imms. *The Tsetse Flies of East Africa* is a first study of their ecology with a view to their control by C. F. M. Swynnerton (Transactions Royal Entomological Society of London). This is an outstanding contribution to the solution of a most intricate and important problem.

TECHNICAL WORKS

Mosaics and Other Anomalies Among Ants by William Morton

Wheeler, (Harvard Univ. Press) is a technical work discussing the origin of the various forms in ant colonies. *A Generic Classification of the Nearctic Sawflies* by Herbert H. Ross, (*Bulletin*, Univ. of Illinois) is a technical work on this important group of insects. *Discussions of Nearctic Caddis Flies* by Herbert H. Ross, (*Bulletin*, Illinois Natural History Survey) is a part of a comprehensive survey of the aquatic fauna of Illinois.

LISTS AND INDEXES

The Insects of North Carolina by C. S. Brimley, issued by the North Carolina Department of Agriculture, is a work listing over 10,000 species of insects or closely related forms. *Check Lists of the Cicadellidae* (Homoptera) of North America by Dwight M. DeLong and John S. Caldwell, published by the authors, Columbus, O., is a work listing 145 genera and more than 18,000 species of insects commonly known as leafhoppers. *A Glossary of Entomology* by J. R. de la Torre-Bueno, published by the Brooklyn Entomological Society, is a book containing nearly 12,000 definitions. *Index V to the Literature of American Economic Entomology, 1930–1934,* is a volume of over 700 pages, published by the American Association of Economic Entomologists.

PERSONNEL

Professor P. J. Parrott, for many years head of the Department of Entomology of the New York Agricultural Experiment Station, was appointed director of the Station in January and the vacancy thereby caused was filled July 1 by the appointment of Dr. Hugh Glasgow as the Head of the Division of Entomology. Dr. Glasgow has been a member of the Station staff since 1914.

Dr. O. A. Johannsen, Professor of Entomology and Head of the Department of Entomology of Cornell University, retired at the end of the college year and was succeeded July 1 by Dr. Charles E. Palm of the Department staff.

Dr. R. E. Snodgrass, noteworthy because of his contributions to insect morphology, was elected one of the 12 honorary Fellows of the Royal Entomological Society of London.

A bronze plaque was placed Sept. 30 with suitable ceremonies on the first building to be used entirely for entomology at the Massachusetts State College, Amherst, the building having been erected in 1890. The Department of Entomology was subsequently transferred to the well equipped and, in entomological circles, widely known Fernald Hall.

NECROLOGY

Samuel E. Cassino, an entomologist best known as the publisher of 30 editions of the *Naturalists' Directory,* died Nov. 16, 1937.

P. A. Glenn, for many years Chief Inspector of the Division of Plant Industry, State of Illinois, died Dec. 9.

W. E. Rumsey, State Entomologist and Entomologist of the West Virginia Agricultural Experiment Station, died Feb. 16.

George R. Wilson, Associate Quarantine Entomologist of the California State Department of Agriculture, died June 11.

Roy A. Vickery, Associate Entomologist of the Federal Bureau of Entomology and Plant Quarantine, died July 13.

BOTANY

By Mildred E. Mathias

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PLANT PHYSIOLOGY

A major development in physiological research has been the increased interest in growth problems. During 1938 the study of the growth of excised roots opened up a new field for research. White and Dawson published papers on the method of culture of excised plant parts and the cultivation of excised roots. White discussed also the role of accessory salts in the nutrition of excised tomato roots. Robbins and coworkers made a thorough study of the growth of excised roots of the tomato. Galliger discussed the correlation between the growth of excised root tips and the types of food stored in the seed. Avery and La Rue studied the growth of excised *Avena* coleoptiles and their tropic responses.

Other papers on growth include those by Johnston on plant growth in relation to wave-length balance; Eisele on the influence of environmental factors on the growth of the corn plant under field conditions; and Pessin on the effect of soil moisture on the rate of growth of longleaf and slash pine seedlings. Papers concerned with nutrient salts and growth include those by Dunlap on the growth of cabbage seedlings in sand culture as affected by delayed application of nutrient salts; Arnon on microelements in culture-solution experiments with higher plants; Carolus on the effect of certain ions, used singly and in combination, on the growth and potassium, calcium, and magnesium absorption of the bean plant; Oserkowsky and Thomas on copper deficiency in peas; Lipman on the importance of silicon, aluminum, and chlorine for higher plants; Trelease on selenium as a stimulating and possibly essential element for certain plants; and Martin and Trelease on the absorption of selenium by tobacco and soybeans in sand cultures. McMurtrey has given a general discussion of the distinctive plant symptoms caused by deficiency of any one of the chemical elements essential for normal development. Two volumes have been published on the soilless growth of plants, one by Dawson and Dorn and the other by Ellis and Swaney.

Another phase of the growth studies has been the numerous investigations of growth substances. Went has reported on transplantation experiments with peas in which etiolated tops were grafted on root systems of the same or other peas. He concluded that "these factors which come from the base and move through living tissue only" are to be put provisionally in the new category of plant hormones, "the calines." Koepfli, Thimann and Went discussed the structure and physiological activity of phytohormones. Went also experimented with peas on the specific factors other than auxin which affect growth and root formation. Zimmerman and Hitchcock published a series of papers discussing the combined effect of light and gravity on the response of plants to growth substances, the physiological activity of growth substances, and the tropic responses of leafy plants induced by application of growth substances. The last study was carried on with tomato, sunflower, cosmos, marigold and tobacco but the most satisfactory results were obtained with tomato. J. Bonner investigated ascorbic acid and the growth of plant embryos. D. M. Bonner, working with peas, studied the relation of environment and of the physical properties of synthetic growth substances to the growth reaction. Other studies concern the growth and structure of cotton fiber (Anderson and Kerr); hormones and root formation (Cooper); inhibitions due to growth hormone in fern prothallia and sporophytes (Albaum); growth substances in relation to the mechanism of the action of radiation on plants (Popp and McIlvaine); anatomical changes in *Tradescantia fluminensis* after treatment with growth substances (Bloch); the relation of growth promoting substances to the rest period in fruit trees (Bennett and Skoog); hormones and the analysis of growth (Thimann); and protoplasmic streaming, electric potentials and growth in coleoptiles of *Triticum* and *Avena* (DuBuy and Alson).

Studies of the effect of indoleacetic acid include those by Mitchell and Hamner on the stimulating effect of beta (3) indoleacetic acid on synthesis of solid matter by bean plants; Hamner on the histological responses of *Lilium* species; Pratt on the influence of indole-3-acetic acid on the respiration and growth of intact wheat seedlings; and Stewart on the extensibility of cell wall material in indole-3-acetic acid.

Robbins and Kavanagh discussed vitamin B_1 or its intermediates and the growth of various fungi, including *Pythium* and *Phytophthora.* Bonner discussed vitamin B_1 and the growth of roots, particularly the relation of chemical structure to physiological activity. Bonner and Greene published on vitamin B_1 and the growth of green plants.

Thimann, Lane, Schneider and Sweeney continued researches on auxin with papers on the role of salts, hydrogenion concentration and agar in the response of the *Avena* coleoptile to auxins, the after-effects of the treatment of seed with auxin, and the effect of auxins on protoplasmic streaming. Van Overbeek discussed auxin distribution in seedlings and its bearing on the problem of bud inhibition and auxin production in seedlings of dwarf maize. Bonner and van Overbeek reported on auxin isolated roots growing in vitro. Other studies on auxin include those by Pratt on the influence of auxins on the growth of *Chlorella vulgaris,* Schneider on the interdependence of auxin and sugar for growth, Clark on electrical polarity and auxin transport, Scott on the anatomy of auxin, treating etiolated seedlings of *Pisum sativum,* and Skoog on the absorption and translocation of auxin.

The investigations of virus proteins were continued by numerous workers. Stanley discussed these virus proteins, particularly tobacco mosaic, which constitute a new group of marcromolecules. He also discussed the isolation and properties of tobacco mosaic and other virus proteins. Ross and Stanley studied the partial reactivation of formalized tobacco mosaic virus protein. Loring, Osborn and Wyckoff isolated high molecular weight proteins from bean and pea plants by ultracentrifugation. Wyckoff similarly analyzed the aucuba mosaic virus protein. Lauffer described the shape and determined the molecular weight of the tobacco mosaic virus protein. Frampton and Neurath made an estimate of the relative dimensions and diffusion constant of the tobacco-mosaic virus protein. Other studies of mosaic diseases include those on mosaic resistance in tobacco (Clayton, Smith and Foster); translocation in relation to mosaic formation in maize (Jones); seasonal variations in susceptibility of tobacco to infection with tobacco mosaic virus (Spencer); action of high pressures on plant viruses (Basset *et al*); inheritance of resistance to tobacco-mosaic disease in tobacco, and taxonomic relationships of plants susceptible to infection by tobacco-mosaic virus (Holmes); local virus infections in relation to leaf epidermal cells (Boyle and McKinney); the influence of four mosaic diseases on the plastid pigments and chlorophyllase in tobacco leaves (Peterson and McKinney); and the inactivation of tobacco-mosaic virus in cured tobacco leaves by dry heat (Thornberry *et al*).

Publications on the effect of x-rays include those by Bless on the effects of the length of x-ray waves on seeds; Session on orientation in young cotton fibers as indicated by x-ray diffraction studies; and Harris and others on an x-ray study of lignin and its significance for the structure of living matter.

Photosynthesis was the subject of papers by Manning and others on the quantum efficiency of photosynthesis in *Chlorella;* Pratt and Trelease, working with *Chlorella,* on the influence of deuterium oxide on photosynthesis in flashing and in continuous light; Burns on photosynthesis and the absorption spectra of plant pigments; and Emerson and Green on the effect of hydrogen-ion concentration on *Chlorella* photosynthesis.

Studies on photoperiodism include papers on the locus and physiology of photoperiodic perception in plants by Loehwing; the effects of temperatures and other environmental factors upon the photoperiodic responses of some of the higher plants by Roberts and Struckmeyer; correlative effects of environmental factors on photoperiodism by Hamner; influence of photoperiods upon the differentiation of meristems and the blossoming of Biloxi soy beans by Borthwick and Parker; and the effectiveness of photoperiodic treatments of plants of different age by Borthwick and Parker.

GENETICS AND CYTOLOGY

Investigations on the effect of colchicine have occupied a prominent position. Papers were published by Dermen on a cytological analysis of polyploidy induced by colchicine and by extremes of temperature; Eigsti on a cytological study of colchicine effects in the induction of polyploidy in plants; and Walker on the effect of colchicine on microspore mother cells, microspores, and somatic cells of *Tradescantia paludosa.*

Chromosome studies include the following publications: Willoughby, "Chromosome numbers of Amaranthaceae;" Baldwin, "Chromosomes of *Kalmiopsis;*" Wipf and Cooper, "Chromosome numbers in nodules and roots of red clover, common vetch and garden peas;" and Smith, "Some chromosome numbers in the Cruciferae."

Maize has continued to be a favored material for research. Papers on maize are by van Overbeek on laziness in maize due to abnormal distribution of growth hormone; Anderson on translocation in maize involving chromosome 9; McClintock on the production of homozygous deficient tissues with mutant characteristics by means of the aberrant mitosis behavior of ring-shaped chromosomes; and Rhoades on the effect of the D+ gene on the mutability of the a_1 allele in maize.

Several workers studied the genetics and cytology of the tomato. Papers are by Lesley on the relation between satellite size and nucleolus size in three races of *Solanum lycopersicum;* MacArthur and Butler on size inheritance and geometric growth processes in the tomato fruit; and Currance on the relation of the first chromosome pair to date of fruit ripening in the tomato.

Publications on *Tradescantia* include those by Anderson and Hubricht on hybridization in *Tradescantia* and Sax on chromosome aberrations in *Tradescantia reflexa* induced by x-rays.

McLean published on the inheritance of fragrance in gladiolus; other papers include Emsweller and Jones "Crossing-over, fragmentation, and formation of new chromosomes in an *Allium* species hybrid;" Flory, "The somatic chromosome complement of Habranthus robustus;" Matzke, "Inflorescence patterns and sexual expression in *Begonia* semperflorens;" Boye and Rife, "Genetic studies of *Coleus;*" Kelly, "Picta patterning in *Phlox;*" Saunders and Stebbins, "Cytogenetic studies in *Paeonia;*" Emerson, "The genetics of self-incompatibility in *Oenothera organensis;*" McClintock, "The fusion of broken ends of sister half-chromatids following chromatid breakage at meiotic anaphases;" Cooper, "Cytological investigations of *Pisum sativum;*" Beasley, "Nuclear size in relation to meiosis;" Sorokin, "Mitochondria and plastids in living cells of *Allium cepa;*" Bieberdorf, "The cytology and histology of the root nodules of some Leguminosae;" and Bailey, "Cell wall structure of higher plants."

Seiks gave a general discussion of plasmatic inheritance; Stout summarized the genetics of incompatibilities in homomorphic flowering plants; Stebbins discussed the cytological characteristics associated with the different growth habits in the dicotyledons. A third edition of Shull's book on heredity was published.

ECOLOGY AND PLANT GEOGRAPHY

Studies in plant distribution and ecology in limited geographical areas include papers by Blair and Hubbell on the biotic districts of Oklahoma; Cain and Penfound on the red maple swamp forest of central Long Island; Marie-Victorin on the phytogeographical problems of eastern Canada; Aikman and Smelser on the structure and environment of forest communities in central Iowa; Eggler on the maple-basswood forest type in Washburn County, Wisconsin; Rigg and Richardson describing the profiles of some sphagnum bogs of the Pacific Coast of North America; Stanley on the indicator significance of lesser vegetation in the Yale forest in New Hampshire; Houson and Whitman on the characteristics of major grassland types in western North Dakota; Brierly on the relation of *Pinus rigida* to physiographic features and soil types in central Massachusetts; Kittredge on the interrelations of habitat, growth rate, and associated vegetation in the aspen community of Minnesota and Wisconsin; Penfound and Hathaway on the plant communities in the marshlands of southeastern Louisiana; Woodruff on the soil acidity at the roots of some Tennessee pteridophytes; Turnage and Hinckley on freezing weather in relation to plant distribution in the Sonoran desert; Cain and Sharp on the bryophytic unions of certain forest types of the Great Smoky Mountains; Bingham on vegetational invasion and succession on a denuded area of the Cranbrook estate, Bloomfield Hills, Mich.; Wilson on the postglacial history of vegetation in northwestern Wisconsin; and Buell describing a community of blue-green algae in a Minnesota pond.

Other publications in ecology discuss studies of bark factors affecting the distribution of corticolous bryophytic communities (Billings and Drew); the species-area curve (Cain); layering in black spruce (Gates); the peach tree root distribution (Havis); light in some plant associations (Miller); the hydraulic method of excavating the root systems of plants (Staeckeler and Kluender); a limnological study of a retrograding bog lake (Welch); secondary succession in the desert plains grassland (Whitfield and Anderson); natural vegetation in the desert plains grassland in southwestern Texas, southern New Mexico and southern Arizona (Whitfield and Bentner); the structure and development of old field shortleaf pine stands and certain associated physical properties of the soil (Billings); and salt spray as an important factor in coastal ecology (Wells and Shunk).

Of general interest are Antev's publication on rainfall and tree growth in the Great Basin; Hanson's account of the ecology of the grassland; a publication from the second Byrd Antarctic expedition by Siple on ecology and geographical distribution; a revised edition of Jaeger's book on the California deserts; Carpenter's ecological glossary; a second edition of *Plant Ecology* by Weaver and Clements; Munn's work on the distribution of important forest trees of the United States; Vestal's subject index for communities, including vegetation components; and Van Dersal's catalogue of the native trees and shrubs of the United States, a handbook prepared primarily for use by the Soil Conservation Service but of general interest to all botanical workers.

MORPHOLOGY AND ANATOMY

Life history studies discuss *Eisenia arborea* (Clare and Herbst); *Regnellidium diphyllum* (Johnson and Chrysler); and *Galinsoga ciliata* (Popham). Publications on the inflorescence discuss *Magnolia* (Earle); coffee (Houk); the Juglandaceae (Manning); the Apocynaceae (Woodson and Moore); *Holcus sorghum* (Chen); pepper (Cochran); *Urginea maritima* (Carpenter), and include general papers by Uphof on cleistogamic flowers and by Gustafson on artificial parthenocarpy.

The vegetational anatomy and morphology of many plants were studied. Papers include the origin and development of tissues in the root of *Lygodium palmatum* (Bartoo); normal growth, regeneration and adventitious outgrowth formation in fern prothallia (Albaum); the winter buds of *Brasenia* (Chrysler); the structure of *Allotropa* (Copeland); developmental anatomy of the seedling of the rice plant (Yung); development and anatomy of primary structures in the seedling of *Cucurbita maxima* (Whiting); the leaf and stem anatomy of *Cornus florida* in relation to light exposure (Shank); a comparative histogenetic study of the bud scales and foliage leaves of *Viburnum opulus* (Cross); cone formation in *Sequoia gigantea* (Buchholz); anatomy of the leaf and stem of *Gossypium* (Webber); origin and development of shoots from the tips of roots of *Pogonia ophioglossoides* (Carlson); development and structure of the watermelon seedling (Hufford); comparative anatomy of the Moraceae and their presumed allies (Tippo); vegetative anatomy of the tomato (Woodcock); the development of the embryo of *Zizania aquatica* in the seed and in artificial cultures (La Rue and Avery); macrosporogenesis and embryo development in *Ulmus fulva* (Walker); embryogeny of *Acorus calamus* (Buell); embryology of *Pisum sativum* (Cooper); correlation of cambial activity with flowering and regeneration (Wilton); growth patterns of plants developed from immature embryos in artificial culture (Tukey); structural problems at the meristem (Sinnott); gemmipary in *Kalanchoe rotundifolia* and other Crassulaceae (Stoudt); regeneration in *Crassula multicana* (McVeigh); and anatomical evidence for the Menyanthaceae (Lindsey). Papers on wood anatomy by Record discuss the American woods of the Celastrales, Olacales, Santales and Euphorbiaceae.

TAXONOMY

Taxonomic publications during the year concerned the following orders and families of higher plants: Anacardiaceae (Barkley); Apocynaceae (Woodson); Asteraceae (Blake); Cactaceae (Clover); Celastraceae (Lundell); Ericales (Camp); Gramineae (Chase and Swallen); Lauraceae (Allen); Liliaceae (Eastwood); Myristicaceae (Smith); Myrtaceae (Merrill and Perry); Onograceae (Munz); Ophioglossaceae (Clausen); Orchidaceae (Williams); Palmae (Bailey); Passifloraceae (Killip); and Theaceae (Kobuski). The following genera of higher plants were monographed, revised, or otherwise studied: *Acmena* (Mirrill and Perry); *Aegiphila* (Moldenke); *Aragoa* (Pennell); *Astragalus* (Johnston); *Campylocentrum* (Ames); *Castilleja* (Pennell); *Chamaecrista* (Senn); *Cooperia* (Hume); *Coreopsis* (Sharsmith); *Delphinium* (Martin); *Douglasia* (Constance); *Dryopteris* (Maxon and Morton); *Elytraria* (Leonard); *Eriogonum* (Fosberg); *Erythrina* (Krukoff); *Euphorbia* (Sherff); *Glaucocarpum* (Rollins); *Gonolobus* (Perry); *Hemimeris* (Grant); *Lathyrus* (Senn); *Lechea* (Hodgdon); *Linanthus* (Mason); *Lomatium* (Mathias); *Lupinus* (Eastwood); *Pentstemon* (Keck); *Phlox* (Wherry and Constance); *Pleuckia* (Lundell); *Polyctenium* (Rollins); *Polygonum* (Wheeler); *Quercus* (Muller); *Rhus* (Barkley); *Salix* (Ball); *Salvia* (Epling); *Smelowskia* (Rollins); *Stelis* (Ames); *Streptanthus* (Morrison); *Syzygium* (Merrill and Perry); *Telipogon* (Ames); *Thrinax* (Bailey); *Thrixspermum* (Williams); *Valerianella* (Dyal); *Youngia* (Babcock and Stebbins); and *Zeuxine* (Ames).

Studies on lower plants include the two volumes by Smith on *Cryptogamic Botany;* Taylor's Marine algae of the northeastern coast of North America; Drouet's various papers on the Myxophyceae; Transeau's notes on the Zygnemataceae; Bold's notes on Maryland algae; and Buell's discussion of the taxonomy of a community of blue-green algae in a Minnesota pond. Publications on the bryophytes include Hague "Illinois liverworts;" Parker, "The Hepaticae of Indiana;" Ammons "List of West Virginia liverworts;" Anderson, "The mosses of North Carolina;" DuVall "The moss flora of the Wallowa mountains of Oregon;" Grout "A tentative key to the moss flora of North America;" Schaffner "The natural orders of the true mosses;" Bartram "Mosses," of the second Byrd Antarctic expedition; Darlington "Bryophytes collected in the vicinity of Glen Lake, Leelanan county, Michigan;" Steere, "Bryophytes of Arctic America. I. Species from Little Diomede Island, Bering Strait, Alaska;" and Nichols "Bryophytes of the Huron mountain region, Marquette county, Michigan."

Numerous new species and varieties have been described and studies of the floras of various limited areas have been continued. Field work went on as usual with collections by organized expeditions and by individuals.

Floras, manuals and lists published during the year include the following: Wheery "Guide to eastern ferns;" Hollinshead "Ferns of the New Jersey pine barrens;" Bloomquist "Peat-mosses of the Southeastern States;" Massey and Carroll "Ferns and fern allies of Mountain Lake, Giles County, Virginia;" Svenson "Pteridophyta of the Galapagos and Cocos Islands;" McCoy "The ferns and fern allies of Kentucky;" Lyness "Keyes to the ferns of Iowa;" Correll "A county check list of Florida ferns and fern allies;" Graham "Botanical studies in the Uinta Basin of Utah and Colorado;" Williams "Forest trees of the Isthmus of Tehuantepec, Mexico;" Sharples "Alaska wild flowers;" Moyle "A field key to the more common non-woody vascular plants of central and northern Minnesota, based largely upon vegetative characters;" Parks, Cory and others "The fauna and flora of the Big Thicket area (Texas);" Baker "Florida wild flowers;" Eliot and McLean "Forest trees of the Pacific coast;" Peirson "Plants of Rock Creek Lake basin, Inyo county, California;" Brown "Trees of northeastern United States;" Beetle "Flowering plants and ferns of the Fox research forest, Hillsboro, New Hampshire;" Yuncker "A contribution to the flora of Honduras;" Standley "Flora of Costa Rica;" Kelly "The ferns and flowering plants of central Pennsylvania;" Schaffner "Additions to the revised catalogue of Ohio vascular plants;" Bevel "Key to the common aquatic and emergent plants of Reelfoot Lake (Tennessee);" Tolstead "A flora of Winneshiek and Allamakee counties and Clayton County in the vicinity of McGregor (Iowa);" Aikman and Hayden "Iowa trees in winter;" Clokey "Notes on the flora of the Charleston mountains, Clark County, Nevada"; Fender "The flora of Seven Mile Beach, New Jersey;" Little "Flora of Muskogee County, Oklahoma;" and Applegate "Plants of the Lava beds national monument, California."

MYCOLOGY

Taxonomic studies include a publication by Hotson and Stuntz on the genus *Agaricus* in western Washington; Berdan's revision of the genus *Ancylistes;* Seaver's descriptions of *Chroroscypha* and *Helotium;* Couch's book on the genus *Septobasidium;* Brassfield's paper on the Dacrymycetaceae of temperate North America; Murrill's descriptions of new boletes; Shear's mycological notes; Martin's myxomycetes from Panama and Colombia; Humphrey's notes on some basidiomycetes from the Orient; Murrill's descriptions of new Florida agarics; Smith's descriptions of North American agarics; Zeller's descriptions of agarics from the Pacific Coast States; Baxter's paper on resupinate polypores from the Great Lakes region; Overholt's notes on fungi from the lower Mississippi Valley; Kern's additions to the Uredinales of Venezuela; and Kanouse's notes on Michigan Discomycetes. Publications on lichens include *Lichens of Point Lobos Reserve* by Wheeler; *Lichens and Lichen Parasites* by Dodge and Baker, an account of collections of the second Byrd Antarctic expedition; *Preliminary Report on the Lichens of the State of Washington* by Howard; *Lichens Collected in the Porcupine Mountains, Northern Michigan* by Darlington; and *The Distribution of Some Lichens in North America* by Lowe.

Investigations of life histories and development of fungi concern heterothallism in *Sapromyces* (Weston); the systematic position of the Myriangiales (Miller); the morphology of *Obelidium mucronatum* (Sparrow); pleomorphic life cycles in a genus of the Helotiaceae (White and Whetzel); cultural life histories of *Melanconis* and *Pseudovalsa* (Wehmeyer); discharge of conidia in a species of *Entyloma* (Hanna); effect of light on the fruiting of myxomycetes (Gray); the cultural characteristics of the species of *Fomes* (Campbell); and cultural studies in the Thelephoraceae and related fungi (Biggs).

Publications in plant pathology concern leaf fungi on sycamore;

species of *Taphrina* on North American ferns; leaf rust of wheat; sorghum kernel smut; wood decay; oat smuts; *Phymatotrichum* root rot of cotton seedlings; *Pucciniastrum* on *Epilobium* and *Abies; Taphrina* on sugar maple and black maple; *Omphalia* infection in date palms; *Cercospora* leaf spot on rose; dry-rot disease of *Opuntia;* grass smuts; *Gardenia* canker; mint anthracnose; blueberry galls produced by *Phomopsis;* pecan anthracnose; rust of *Iris;* and root galls on *Brassica* caused by a smut.

Of general interest are Steven's discussions of the departures from ordinary methods in controlling plant diseases; Weindling's paper on association effects of fungi; the paper by Lockwood and Moyer on the production of chemicals by filamentous fungi; and the paper by Porter and Carter on competition among fungi.

PALEOBOTANY

Many new fossils have been described from various horizons. General publications are Arnold's paper on paleozoic seeds; Chaney's discussion of paleoecological interpretations of cenozoic plants in western North America; Axelrod's paper on the stratigraphic significance of a southern element in later Tertiary floras of western America; and the identification key for Illinois plant fossils by Noe and Janssen. Regional studies include papers on the fossil plants from Hog Creek in southwestern Idaho by Smith; pleistocene fossils from Westmoreland County, Virginia by Berry and additional miocene plants from Grand Coulee, Washington by Berry.

ECONOMIC BOTANY

By H. K. Hayes

Professor, University of Minnesota

THE FARMER AND THE SOIL

Several of the discussions in the U. S. Department of Agriculture *Yearbook* for 1938 are concise summaries of the importance of special fields of economic botany in relation to the development of a permanent system of agriculture. A summary of *"The soil requirements of economic plants"* by Morgan, Gourley and Ableiter discusses the more important field and horticultural crops with particular respect to soil requirements, temperature and water supply. This article contains a wealth of information for the student of economic plants.

A discussion of "Crop Rotation," by Clyde E. Leighty, emphasizes the value of a desirable rotation by contrasting in diagrammatic form the yields of corn grown continuously since 1888 on the Morrow plot fields at the Illinois Agricultural Experiment Station with those obtained under different systems of rotation such as corn-oats and corn-oats-legume, with and without a fertilizer. The desirable plan of corn-oats-clover, with proper fertilization, maintained high yields throughout the experiment. A comparison of yields obtained, from a corn-oats rotation with that from corn-oats-clover, gave a clear-cut demonstration of the value of a legume in the rotation as a desirable method of increasing the yields. Data from Missouri and Virginia were presented in a similar manner. The importance of rotation as a means of controlling noxious weeds and plant diseases was emphasized and crop rotations now in use in various sections in the United States were described.

The discussion by Pieters and McKee. ("The use of clover and green-manure crops") includes a valuable summary of soil improving crops being used in experimental studies in 12 Southern States. Over 50 species or varieties of crops are recommended or are being tested experimentally.

A list of soil conserving plants now being tested in various nurseries gives some idea of the extent of work carried on in an endeavor to find grasses and other thick-growing types of vegetation that are useful in a control of soil erosion, (see "Grass and other thick growing vegetation," by Enlow and Musgrave). Over 2,000 lots of seed were introduced from Russian Turkestan, Turkey and China, and botanists made collections in the United States largely from semi-arid regions. A description is given of these various types of plants that are being grown in eight separate regions. The plants have been classified as to origin, scientific and common name, together with their region of adaptation and special value in soil conservation and erosion control.

GRASSES AND LEGUMES

Diller (*Jour. Amer. Soc. Agron.* 29: 924–933, 1937), studied the forage cover in woodlands in northern Indiana under three types of conditions: (1) ungrazed; (2) transition, where grazing had been carried on for some time, and (3) in open-park conditions where the trees were less dense. The forage cover during the transition stage, in both oak-hickory and beech-maple types, was composed of a high percentage of weeds even though the soil conditions were favorable as evidenced by the fact that tree seedlings made an excellent growth when livestock was excluded. Pasture conditions were less satisfactory in open-park conditions due to the overhead stand than in an unwooded pasture and yields from timber were relatively low also. Artificial methods must be employed in an open-park woodlot to obtain a reasonable stand of young trees following the exclusion of livestock for a period of time.

Diller concludes: "If through improved pasture management, the agronomist makes it possible to the farmer to raise the carrying capacity of his pastures, the less profitable woodland pasture may be retired from grazing and provisions made for its return to a thrifty forest condition."

Schultz and Hayes, (*Jour. Amer. Soc. Agron.* 30: 676–682, 1938), compared drought resistance of a considerable number of grasses and legumes, in a controlled drought-testing machine made available by the Lake States Forest Station. Seedlings, 30 and 60 days old, and sod pieces were grown in the greenhouse in pots and placed for different lengths of time in the machine under conditions of an ultimate temperature of 43°C and a relative humidity of 17%. After treatment the pots were returned to the greenhouse for two weeks before readings were made of drought injury. There was good agreement between resistance to drought in these trials and drought resistance under field conditions when drought was severe. The writers state: "In both tests, crested wheat grass and brome grass proved most drought resistant, while among the legumes, alfalfa was most drought resistant." Timothy, red top and Kentucky bluegrass were rather drought susceptible.

Fuelleman and Graber, (*Jour. Amer. Soc. Agron.* 30: 616–623, 1938), describe the effects of renovation on permanent pasture grasslands in Wisconsin. These old pastures, injured by drought and heavy grazing, widely extended the egg-laying areas of the June beetle resulting in serious injury particularly in 1929, 1932 and 1935 when there were enormous populations of the beetle. Injury to the grass was followed by an infestation of ragweeds, horse weeds and many others. Renovation consists of the establishment of deep-rooted legumes —alfalfa, sweet and red clover—by scarification of grass sods with a disk or spring tooth harrow before sowing the legumes. The renovation not only led to a great reduction in injury from white grubs but had a marked effect in reducing weeds in the renovated as compared with the untreated areas.

DISEASE RESISTANCE

An interesting story, ("Rescuing the flax crop," *Special Circular,* N. D. Agr. Col. Ext. Ser. 1938), portrays the part that wilt resistant varieties have played in the success of flax growing in the United States. Plot 30 at the North Dakota Agricultural

Experiment Station has been used for over 30 years by Dr. H. L. Bolley and his associates as a testing ground for wilt resistance. The Flax Institute of the United States, consisting of business men interested in flax products together with experiment station workers and members of the extension staffs of our agricultural colleges, have decided to commemorate plot 30 by erecting a marker to be placed upon this historic spot.

A quotation from A. C. Dillman, in charge of flax investigations, U. S. Department of Agriculture, describes the development of wilt resistant varieties in a concise and interesting manner.

"The story of flax improvement centers primarily about the successful battle against diseases that threatened to wipe out the industry completely. . . . In 1900 H. L. Bolley of North Dakota determined that flax wilt was caused by a parasitic fungus, which he segregated, described and named. Bolley's work is classical. He was probably the first man in the history of agriculture to submit plants to an epidemic of disease in order to obtain selections resistant to the disease. This method makes deliberate use of the principle of the survival of the fittest. Today it is basic in all crop improvement. . . . Bolley's work completely altered the outlook for flax production in this country!"

Porter, (*California Agr. Exp. Sta. Bul.* 614, 1937) described the breeding of wilt-resistant watermelons in California. These were obtained by selection in commercial varieties and through controlled crosses and subsequent selections where one parent had the desired resistance and the other excelled in quality and productivity.

A paper by Gratz and Kincard, (*Florida Agr. Exp. Sta. Bul.* 326, 1928) reviews briefly the results of previous experiments by Tisdale who selected strains of tobacco resistant to the black shank disease caused by *Phytophthora nicotianae*. This disease was first observed in Georgia in 1915 and for over 10 years caused serious damage to the southern cigar-wrapper area. The only method available of controlling the disease appeared to be the development of resistant varieties. Tests of several black shank resistant varieties were made from 1933 to 1936 including field studies of disease reaction and plant characters, yield of cured leaves, and soundness and quality of wrappers on machine-made cigars of the different varieties. Two strains, Rg and 301, gave satisfactory performance in the trials and were acceptable to the trade.

L. M. Blank, (*Jour. Agr. Res.* 55: 497–510, 1937) describes two types of resistance of the Wisconsin All Seasons variety of cabbage to the yellow organism, *Fusarium conglutinans*. Type A resistance is due to a single dominant gene apparently similar to that found in other varieties of cabbage, brussels sprouts and kohlrabi, and remains effective at relatively high soil temperatures (about 24°C). Type B resistance is more complex genetically and is characterized by having its most favorable expression at the lower soil temperatures, although at higher soil temperature of about 24°C, plants with Type B resistance were susceptible. These and other studies of a similar nature show the importance of Type A resistance which can be selected under controlled temperatures and which proved to be of greater value under field conditions than the so-called Type B resistance.

Rodenhiser and Holton, (*Jour. Agr. Res.* 55: 483–496 1937) present further data on physiological races of bunt of wheat. They isolated 11 physiological races of *Tilletia tritici* and eight of *T. levis*. These races were differentiated by the manner of reaction of varieties of spring and winter wheat. They conclude by stating: "It should be possible, therefore, to obtain hybrids in which factors governing resistance to all races of *Tilletia* are combined with those governing other desirable agronomic characters."

Coffman and others, (*Jour. Amer. Soc. Agron.* 30: 797–815, 1918) report preliminary yield trials from 1935 to 1937 of smut resistant and stem rust resistant selections from crosses of Markton, a smut immune variety, with several desirable stem rust resistant varieties. Many of the selections have been resistant to stem rust, covered smut and loose smut during several seasons. Several of the selections gave high yields and proved superior in this respect to either of their parents and also to the standard varieties of oats previously recommended for the Corn Belt.

INSECT RESISTANCE

The control of insect attacks by the development of resistant varieties is a relatively new field of study compared with the breeding of varieties resistant to pathogenic diseases. Snelling, Painter, Parker and Osborn, (*Tech. Bull. 585,* U. S. Dept. of Agr., 1937) review previous studies and summarize the results of 15 years experimental work regarding the resistance of sorghums to the chinch bug, *Blissus leucopterus.* While no varieties are immune, a number proved to be highly resistant. The use of such resistant varieties is recommended in conjunction with the application of other control measures. They conclude that chinch bug injury is due to one or more of at least four factors. "(1) The direct withdrawal of plant fluids from cells and especially from the xylem and phloem tubes; (2) the exudation of plant fluids from punctures left open after the feeding of the insects; (3) a clogging of the plant conductive tissue with stylet sheath material deposited by the bugs; (4) and openings in the plant tissue are provided through which fungi and bacteria can enter." As no close correlations were observed between morphological or physiological plant characters and resistance it should be possible to develop resistant varieties with various combinations of characters.

Brunson and Painter, (*Jour. Amer. Soc. Agron.* 30: 334–346, 1938) studied the differential feeding of grasshoppers on corn and sorghums in the grasshopper outbreak of 1936. A series of varieties and hybrids of corn showed a range of defoliation of from 4% to 59.8%, under experimental conditions where five separate plantings were made and randomized. Varieties and hybrids showing the greatest resistance, as a rule, originated in areas where grasshoppers are a natural enemy. They state: "It is suggested that natural selection operating in the development of adapted varieties of corn has tended to intensify resistance to grasshoppers and to other natural pests of the region."

Sorghums were much more resistant to grasshoppers than corn. In some cases of neighboring fields of sorghum and corn, the corn was entirely defoliated while sorghum showed little injury. In the sorghum group the sorgos and kafirs were injured less than milo.

CORN IMPROVEMENT IN THE UNITED STATES

In 1938 over 15,000,000 acres of hybrid corn were planted in the United States leading to over 100,000,000 bushels increase in production. Corn hybrids are used because of their greater yielding ability, resistance to lodging and to plant diseases. The change from open-pollinated seed to hybrid seed has been one of the most far-reaching developments of the present generation. In order to utilize hybrid vigor it is necessary to produce inbred lines with the characters desired by selection in artificially self-pollinated lines, keep these lines pure by controlled pollination and determine the best hybrids by actual trial. At present commercial hybrids are largely double crosses, each being obtained by a cross between two single crosses, while each single cross is produced by crossing two inbred lines. Seed growers specialize in producing the seed for commercial corn growers by growing two parental strains (single crosses) in an isolated plot and detasseling one of the strains as soon as the tassels appear, thus making a cross. Seed on the detasseled rows is sold to the farmer who must buy or produce crossed seed each year to obtain the benefit of hybrid vigor. Improvements are being made from year to year in the breeding of more desirable hybrids and in making first crosses available to the seed producer. Anderson, (*Jour. Amer. Soc. Agron.* 30: 209–211 1938), presented data showing that the yield of double crosses could be predicted accurately from the yield of four single crosses entering into the particular double cross. Lewis and Stringfield, (*Jour. Amer. Soc. Agron.* 30: 145–149, 1938) present the plan used in Ohio in the cooperative production of foundation stocks for certified corn hybrids. These stocks are made available to growers of certified seed.

KANSAS PLANT HUNTERS

Clapp, (*29th Biennial Rept.*, Kansas State Board of Agr.) states that "the advancement of any country shows a strong link between the social history and the acquisition of more available useful plants." Most of the important crop plants of North America were introduced from foreign countries, as most native grains except corn and many fruits were introduced by explorers. The work of David G. Fairchild who for many years was head of the Division of Plant Exploration and Introduction was of special value for horticultural plants. Mark A. Carleton was responsible for the introduction of Turkey types of winter wheat and of durum varieties. Walter T. Swingle and Silas C. Mason made important contributions by their introductions of the date palm. Harry V. Harlan, another native of Kansas, has introduced valuable varieties of barley from Abyssinia while Wilson Popenoe, through many years of work in the Tropics, became an authority on tropical fruits.

BREEDING LOW COUMARIN SWEET CLOVER

Smith and Brink, (*Jour. Agr. Res.* 57: 145–154, 1938) interestingly summarize their work on the relation of bitterness to the toxic principle in sweet clover. They report the discovery of a non-bitter species of annual sweet clover, *Melilotus dentata,* and make comparisons of it with common sweet clover, *Melilotus alba.* They stacked material of the two species separately, at about 50 per cent moisture, and allowed it to heat, leading to the production of spoiled hay. When fed to rabbits the spoiled hay from common sweet clover induced a condition in the rabbits of markedly lowering the clotting power of the blood, characteristic of the so-called sweet clover disease of cattle, while spoiled hay from *Melilotus dentata* did not exhibit this toxic principle. As coumarin and the bitter principle are both found in *Melilotus alba,* but not in *dentata,* it is considered probable that the development of low coumarin or coumarin-free forms of sweet clover should eliminate the hazard of feeding improperly cured sweet clover hay. It is of interest that several sweet clover breeders have reported marked inherited differences in coumarin content of different selections.

NATURAL AND INDUCED MUTATIONS

The Cayenne pineapple is the most important variety grown in Hawaii. While there is no exact record of its origin, which occurred about 100 years ago, it without doubt started as a vegetatively reproduced progeny of a single hybrid plant. Recently Collins and Kern, (*Jour. of Heredity* 29: 162–172, 1938) have described 30 mutations that have occurred in the Cayenne variety. The 30 recorded mutations are conspicuous and easily recognized. The writers believe less conspicuous mutations occur equally frequently. From studies such as these it would appear that hereditary changes in nature are constantly taking place. The writers state: "The accumulation of mutations in asexually propagated forms may conceivably play a role in the running out and acclimatization of varieties. The parade of agricultural varieties during the past years is a demonstration of the changes going on, some of which are known to be due to progressive or regressive mutations."

The artificial production of chromosome doubling in plants is a relatively new field although numerous reports have been made in recent years whereby doubling of chromosome numbers has been induced experimentally. A paper by Blakeslee and Avery, (*Jour. of Heredity* 28: 393–411, 1917) has caused many others to try the effect of treatment with colchicine to induce doubling. The authors report success with a wide variety of flowering plants. They state that the development of double diploids from sterile species crosses will be of special value. The new species will then contain a double dose of the chromosomes obtained from the two gametes of the original species that were crossed. It is now generally recognized that many species of crop plants originated in nature from such combinations including such important crops as wheat, oats, many perennial grasses and many valuable fruits. If chromosome and gene changes can be induced at will a new source of hereditary variation will be available to the breeder of economic plants.

PERIODICAL PUBLICATIONS

American Botanist
Indianapolis, Ind.
American Journal of Botany
Botanical Society of America, Connecticut College, New London, Conn.
American Naturalist
Grand Central Terminal, New York City.
Botanical Gazette
5750 Ellis Ave., Chicago.
Botanical Review
Botanical Garden, New York City.
Ecology
Lancaster, Pa.
Journal of Economic Entomology
Amherst, Mass.
Journal of Experimental Zoology
36th. Street and Woodland Ave., Philadelphia.
Journal of Mammalogy
American Museum of Natural History, New York City.

Journal of Morphology
36th. Street and Woodland Ave., Philadelphia.

National Horticultural Magazine
American Horticultural Society, Washington, D.C.

Quarterly Review of Biology
Mount Royal and Guilford Aves., Baltimore, Md.

Scientific American
24 West 40th. Street, New York City.

Yale Journal of Biology and Medicine
New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, Logan Square, Philadelphia, Pa.
AMERICAN ASSN. OF ECONOMIC ENTOMOLOGISTS, Amherst, Mass.
AMERICAN ASSN. OF MUSEUMS, Smithsonian Institution, Washington, D.C.
AMERICAN MICROSCOPICAL SOCIETY, Kansas State Agricultural College, Manhattan, Kan.
AMERICAN MUSEUM OF NATURAL HISTORY, 77th St. and Central Park W., New York City.
AMERICAN NATURE ASSN., 1214 Sixteenth St., Washington, D.C.
AMERICAN NATURE STUDY SOCIETY, 5540 Pershing Ave., St. Louis, Mo.
AMERICAN ORNITHOLOGISTS' UNION, 1939 Biltmore St., N.W., Washington, D.C.
AMERICAN PHYTOPATHOLOGICAL SOCIETY, Bureau of Plant Industry, Washington, D.C.
AMERICAN SOCIETY OF NATURALISTS, Brown University, Providence, R.I.
AMERICAN SOCIETY OF ZOOLOGISTS, Princeton University, Princeton, N.J.
BOSTON SOCIETY OF NATURAL HISTORY, 234 Berkeley St., Boston, Mass.

Botanical Society of America, Connecticut College, New London, Conn.

Entomological Society of America, (Clarence H. Kennedy, Editor), Columbus, O.

Eugenics Research Association, Cold Spring Harbor, New York.

Field Museum of Natural History, Roosevelt Road and Lake Michigan, Chicago, Ill.

Museum of the Comparative Zoology, Cambridge, Mass.

National Assn. of Audubon Societies, 1775 Broadway, New York City.

New York Microscopical Society, American Museum of Natural History, New York City.

New York Zoological Society, 90 Broad St., New York City.

Paleontological Society of America, American Museum of Natural History, New York City.

Reptile Study Society of America, Inc., 536 East 84th St., New York City.

United States National Museum, Tenth and Constitution Ave., Washington, D.C.

DIVISION XXIII
MEDICAL SCIENCES

PHYSIOLOGY, PATHOLOGY AND MEDICINE

By Max Trubek

Associate Visiting Physician, Bellevue Hospital, New York

The year 1938 was dominated by the discussion of adequate medical care for those of limited financial circumstances and the question of national health programs under organized medical or governmental control. Among the scientific contributions none has been more actively pursued than the improvement of chemical remedial agents stimulated by the success attendent upon the use of sulfanilamid.

SULFANILAMID AND RELATED COMPOUNDS

Value.—The effectiveness of sulfanilamid in certain infections needs no confirmation and was discussed at length in the presentation of this subject in this review for 1937. Subsequent experience has borne out its value in the treatment of infections due to the streptococcus hemolyticus and the meningococcus, and where such infections exist the use of the drug in adequate doses is justified. When use of the drug is considered during infections of unknown cause or where its value is open to question, then one must more actively keep in mind the question of whether the possible toxic manifestations of the substance outweigh the problematic value of its use. The variety of poisonings due to sulfanilamid is now better understood and these are constantly kept in mind in the exhibition of the drug. New uses, however, are being demonstrated, such as its success in the therapy of undulant fever and certain resistant cases of pyelitis due to the colon bacillus. Newer variations in the chemical structure of sulfanilamid are constantly being devised with a view to lessening its toxic by-effects and extending the field of its usefulness. Of particular importance has been the development of chemical combinations of value in the treatment of pneumonia which disease has not, except for special types, proven amenable to treatment by the original drug.

Toxic Effects.—At first only cyanosis had been reported but soon a great many other toxic manifestations were encountered. Approximately half the adults show some symptoms after continued use. Some are mild, other by-effects are alarming but rarely fatal if observed in time to withdraw the drug. In addition to the appearance of cyanosis other mild derangements are known to accompany the use of sulfanilamid, particularly loss of appetite, nausea, vomiting, abdominal discomfort, dizziness and headache, chest pain and acidosis. The occurrence of fever during sulfanilamid therapy is of importance and at times when the manifestations of the disease under treatment have subsided a strikingly maintained fever may suddenly disappear when the drug is withdrawn, a truly parodoxical circumstance. Among the reactions of more annoying nature and at times of severe complications are: rash, which may vary from mild to an exfoliating dermatitis if the substance is not withheld; jaundice which may result in liver damage unless the same precaution is observed; anemia due to rapid blood destruction which is amenable to transfusion therapy; hemoglobinuria, also due to red blood cell destruction; peripheral neuritis; and granulocytopenia, a rare but alarming manifestation, may appear shortly after use of the drug. In some manifestations the signs of injury are late in appearing. In one instance a patient developed allergic manifestations due to sensitization by use of a chemical of similar structure many years before. In all cases, unless the indications for sulfanilamid are specific and its use urgently demanded it has seemed wiser not to use massive doses during brief periods and to be constantly on the alert for the appearance of those body alterations known to limit and at times contraindicate its use.

To avoid widespread use of newer sulfanilamid derivatives before their possible toxic side-effects are known, it has become customary for the dependable drug concerns not to market their products as they are developed but first to make them available for use in reputable clinics and evaluate, before sale, their effectiveness and possible dangers. Neoprontosil is now available after a prolonged hospital use has shown it to be perhaps more valuable than sulfanilamid and with fewer toxic manifestations after ordinary dosage except perhaps for the occasional unpredictable occurrence of a peripheral neuritis of considerable severity.

Treatment of Pneumonia.—While sulfanilamid has value during pneumonia, the results are not striking. The fact that this agent has some usefulness during infections due to the pneumococci has led to the investigation of derivatives of sulfanilamid with a view of obtaining one which might have a more definite chemotherapeutic effect. The following is quoted from recent editorial comments in the *Journal* of the American Medical Association:

"Early this year English workers announced that the pyridine derivative of sulfanilamid described as 2-(p-aminobenzene-sulfonamide)-pyridine (NH_2-$C_6H_4SO_2$-NHC_5H_4N), or sulfanilamide-pyridine, had been found to protect mice against pneumonia invasion to a much greater extent than was possible with sulfanilamid. The drug is patented and marketed in Great Britain by May & Baker under the nondescriptive name of M&B 693, or Dagenan. Merck & Co. Inc., the American firm which has obtained the patent rights for the product in this country, has, to its credit, not placed the product on the market; instead it has placed it in the hands of competent investigators in chemotherapy and pneumonia to determine more definitely its dosages, advantages and limitations. While published reports containing the details of the studies thus far are not available, the *Journal* has received communications from a few investigators, all of whom agree that the product has promise in the treatment of certain types of pneumonia. Fortunately the preliminary studies are being made before the product is widely distributed. With any new preparation, careful animal experimentation must be followed by cautious clinical trials to determine its pharmacological effects. The substance has not yet been submitted to the Council on Pharmacy and Chemistry but the firm undoubtedly will submit the product before it is actively promoted. The Council is also considering the choice of a name for the substance which may be used in scientific literature. Recently the press devoted much space to the development of this product. The demand for it might have yielded serious consequences except that the new food and drug law prevents its sale over the counter. Moreover, Merck & Co. is cooperating fully in determining both the usefulness and the hazards associated with the product before making it generally available."

Subsequent to this report a number of studies in series of pneumonia patients have been carried out. The new chemical has been given the designation sulfo-pyridine and when used in conjunction with type specific anti-pneumococcus rabbit serum has produced results apparently showing striking improvement over the use of serum and other older methods alone. The number of patients treated has, of course, been relatively small and only during one pneumonia season. The results, however, seem quite definite enough to warrant enthusiasm among workers who for years have employed the best of the older methods. The drug quickly induces intense nausea in many patients but this alone does not contraindicate its use. Until now a few cases of hemolytic anemia, one of the more serious by-effects, have been induced by the use of this substance so that its administration also requires vigilance for the occurrence of undesired effects.

VITAMIN K

Almquist and Stockstad in this country and Dam and Schönheyder in Denmark discovered that a hemorrhagic disease could be produced in chicks by means of a diet deficient in a new food accessory which Dam has designated vitamin K, or koagulation vitamin. Alfalfa is particularly rich in the new vitamin and its use quickly cured the hemorrhagic condition produced in the chicks. This same substance has the same beneficent effect for the hemorrhagic disease in cattle due to the ingestion of spoiled sweet clover hay. The defect in the condition of cattle has been shown to be due to a lowered prothrombin in the blood, a substance essential for normal clotting. The essential damage occurs in the liver with failure to synthesize adequate amounts of this material.

In human liver diseases, particularly those associated with objective jaundice due to the presence of stones, a hemorrhagic tendency has long been observed in many patients and, not infrequently, this seriously enhances the danger of necessary surgery. Here, also, according to the observations of Quick, a lowered prothombin level of the blood is the immediate cause. There may simultaneously exist a deficiency in the (coagulation) vitamin K due either to deficient intake (vitamin K is fat soluble and exists in a number of foods) or to faulty absorption from the intestinal tract due to the absence of necessary bile salts. In the case of obstructive jaundice, therefore, there must be a concomitant administration of bile salt and vitamin K if a hemorrhagic tendency is being treated. A new and important vitamin substance has thus been added to the growing list of substances essential for the normal body economy.

AMERICAN MEDICAL ASSOCIATION AND GOVERNMENT

This episode climaxes a long antagonism between the present Federal Government and organized medicine as represented by the American Medical Association and its component state and county societies. Fortunately, at the present time, because of the recent political turn of events, this circumstance is apt to be less acrimonious on the part of the Government and possibly productive of mutual reforms rather than an attempt made to alter the system of medicine as practiced in this country.

The American Medical Association has always opposed any policy which would deny to an individual patient the right of free choice of his medical attendant and also in general any practice upon a risk-sharing prepayment basis rather than upon a fee-for-service basis. It has opposed health insurance also for the additional reason of lay bureaucratic control of medical policy. The stimulation to individual initiative and the personal responsibility inspired by the free choice and fee-for-service payment should, as a rule, call forth greater effort than an arrangement which calls for a fixed income regardless of the amount of work or work upon a basis of a small fixed fee. Among patients with adequate incomes or physicians whose private practices are profitable there is no desire to alter this arrangement. It will always be a comfort to any individual to have at his service his own physician; any other arrangement would be a temporary expedient or a sheer necessity. Because of economic ills many patients are unable to afford this luxury and many physicians have found their practices poorly remunerative. Out of this necessity have grown many plans to bring medical aid to the less fortunate as well as to bring greater financial security to the physicians and also to medical institutions.

In recent years there has been a rapid growth in membership in the various forms of pre-payment hospital plans which do not interfere with the patient's choice of physician or hospital and which provide only for hospital expenditures. Such plans have been very satisfactory for the patient and apparently also to the hospitals. Until now there have been no widespread attempts made to include the physician's fee under a similar arrangement although sporadic attempts have appeared throughout the country. In 1937 the Group Health Assurance was incorporated in Washington, D.C., having been set up by the employees of the Federal Home Loan Bank to furnish, on a periodic payment basis, practically complete medical service for themselves and families. It now has a list of 2,700 subscribers, who, with their families, represent a membership of approximately 4,000 individuals. A total of about $40,000 of government money was appropriated to be gradually used for the financing of this corporation.

The Association agreed to provide "substantially complete medical and hospital service for such employees of the Home Owners Loan Corporation as care to join it on a reasonably monthly basis and also to provide physical examination at the time of employment of all new employees in the Washington office and to manage and supervise the emergency rooms and the employees in the nursing service maintained in connection with such emergency treatment and in visitation to employees in the Washington office who are on sick leave."

DEPARTMENT OF JUSTICE INVESTIGATION AND INDICTMENT

On July 30, Assistant Attorney General Thurman Arnold released in Washington a statement of what he said were the results of "a preliminary investigation made by the Department of Justice in response to numerous complaints . . . with reference to activities within the medical profession in the District of Columbia." He alleged that the Medical Society of the District of Columbia, the American Medical Association and some of the officials of both these organizations were attempting to prevent Group Health Association, Inc. from functioning and he stated what he said were the methods that had been used to accomplish that end. This, he said, was a violation of the anti-trust laws, because in the judgment of the Department of Justice those laws prohibit "combinations which prevent others from competing for services as well as goods." The persons responsible for this alleged attempt to prevent Group Health Association, Inc. from functioning could be ascertained, Mr. Arnold said, only by a grand jury investigation, and such an investigation would be undertaken in the near future.

On Aug. 12, Sterling Ruffin, M.D., Prentiss Wilson, M.D., and Elijah W. Titus, M.D., in their respective individual capacities as licensed physicians in the District of Columbia, filed a bill of complaint against the Group Health Association, Inc. in the District Court of the United States for the District of Columbia, "praying that Group Health Association, Inc., show cause why it should not be enjoined and restrained from engaging in the practice of medicine and surgery in the District of Columbia and praying that, pending the final hearing and determination of the cause, and thereafter, Group Health Association, Inc. be enjoined and restrained from doing any act, or holding itself out to do any act, which constitutes the practice of medicine and surgery in the District of Columbia."

On Aug. 19, Assistant Attorney General Arnold said in part: "The American Medical Association, by use of various types of pressure, declines to allow a patient to be admitted to a hospital unless he is attended by a member of that association. The Department, of course, would regard as reasonable attempts of the medical association to require the highest standards. What they are doing, however, is to prevent qualified physicians from practicing their profession in hospitals because they disagree with their social views as to the best method of furnishing medical care to the poor. They have expelled a physician who was associated with Group Health and reinstated him when he dropped from that association. The Department is not interested in Group Health or in any particular form of labor organization or in the encouragement of any particular industry. It is only interested in insuring equal opportunity for all qualified persons to compete in either rendering services or selling goods excepting in those cases where Congress decides otherwise by special exception to the antitrust laws."

The Grand Jury, under the guidance of special assistants to the Attorney General, who had the matter in charge, allege in the indictment that the defendants, and certain members of the Medical Society of the District of Columbia who were not made defendants, the Washington hospitals, and other persons to the Grand Jury unknown, combined and conspired to restrain "trade" in the District of Columbia, namely, to restrain Group Health Association, Inc. in its "business of arranging for the provision of medical care and hospitalization for its members and their dependents on a risk sharing prepayment basis"; to restrain the members of Group Health Association, Inc. from "obtaining, by cooperative efforts, adequate medical care for themselves and their dependents from doctors engaged in group medical practice on a risk-sharing prepayment basis; to restrain the doctors serving on the medical staff of Group Health Association, Inc. practicing in the District of Columbia "in the pursuit of their callings"; and to restrain the Washington hospitals "in the business of operating such hospitals." All of which, the Grand Jury alleged, was in violation of the Sherman Antitrust Act.

PUBLIC AND PRESS COMMENT

A recent editorial in the *Journal* of the American Medical Association ends with the following comments: "Apparently the press of the United States finds it impossible to separate the activities of the Department of Justice from the proposal of a vast expansion of medical service under government control. Thus Gerald G. Gross, in the *Washington Post* of Dec. 25, 1938, writes: 'A convincing case can be built up to support the theory that the extraordinary grand jury study was, to put it bluntly, propaganda looking forward to Congressional consideration of the proposed National Health Program.'

"The commentators in the American press, including even those newspapers which have been most persistent in the campaign for new methods of medical practice, have been well nigh unanimous in their opinions that the action of the Department of Justice under Thurman Arnold was the wrong way to achieve the objective if that objective is to be achieved. Certainly this legal procedure can do nothing to solve the problem of medical care. It is a pity that the Federal Government, including its executive, investigative and a considerable number of other departments, should have embarked on a procedure which is inclined to cast public discredit on a great profession and to impugn the motives of workers in that profession. Moreover, a suitable defense will cost the Association a considerable sum of money that, in the ordinary course of events, would have been spent for the advancement of the science and art of medicine and the protection and promotion of public health. The time may yet come when those representatives of our government who have been chiefly responsible for initiating, conducting and manipulating this performance with all of its far flung manifestations will review regretfully the part they have played in this incident."

CONCLUSION

Abuses are bound to creep into any method of procedure which has existed long enough. The medical profession stands in high repute because of its productivity which is dependent upon the type of men who enter its ranks. Such selection is the basis for sound and honest performance, not regulation by laws. Corrective methods can be attained by mutual consultation so as to bring medical policy in general into the proper spirit of the time. Many prominent physicians have disagreed with those policies of the American Medical Association which have not tolerated any governmental interference. If the Government is called upon actively to finance medical service there can be no doubt that it will demand a voice in the affairs of the medical body. It would seem that so much now depends upon the stability of our economic system, if that is sustained there will not exist any widespread desire to nationalize medicine nor will the people of the country allow it, judging from the present trend. The problem to be solved is the proper medical care for those not wishing charity but still unable to afford the best available measures during serious illness.

SURGERY

By Frank L. Meleney

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PROGRESS

As has been said in former reviews, the test of time is necessary to determine the significance of any scientific discovery. Some discoveries which have a general application are immediately put to an extensive test and their value can be determined in a relatively short time. Others which may be fundamentally more important, by their very nature can not be subjected to extensive test so that it takes years before they can be properly evaluated. In the field of surgery in 1938 slow progress was made in the improvement of anesthetic methods, in the surgery of the endocrine glands, in the surgery of the chest and in the preparation and postoperative care of patients. On the other hand, very rapid progress was made in the understanding and treatment of surgical infections.

ANESTHESIA

Avertin.—Avertin has come into more general use throughout the country as a basal anesthetic. It is very acceptable to patients because under its influence they seem to fall off into a natural slumber and they have no recollection of the operation or the immediate postoperative period. It is acceptable to the anesthetist because it permits a very much easier induction of the inhalation anesthetic, which is required as a supplement to the avertin for complete surgical anesthesia. It also minimizes the nausea and vomiting after operation and often carries the patient through the first few days of his postoperative course in a state of somnolence. The fear of anesthesia in children and in nervous individuals is completely removed and it can frequently be given to patients without their knowing that they are receiving any more than a simple enema. However, wide experience with this basal anesthetic has gradually resulted in a lowering of the dose so as to obtain the chief benefits and at the same time minimize the risk of depression of the vasomotor control and the respiration center.

Cyclopropane.—Cyclopropane has had steadily increasing use during the year and experience has gradually been accumulating in its administration. It produces a deep surgical anesthesia with a relatively short induction and permits the use of a high percentage of oxygen. It is frequently used after the basal anesthesia has been obtained with avertin. In many cases, however, it is used alone and has been steadily replacing nitrous oxide and oxygen or ether in popularity.

Intratracheal Anesthesia.—During the year anesthetists have been favoring the intratracheal method of anesthesia more and more. This permits a freer exchange of the anesthetic. Positive intrapulmonary pressure may be employed when indicated. The fatigue of respiration may be diminished and a more complete control of the anesthesia can be maintained. It has certain disadvantages, however, and should be only employed by the expert anesthetist. Intubation may at times be a little difficult and there may be some trauma to the epiglottis or the vocal cords. It is of great advantage in thoracic operations and also in operations on the upper abdomen, particularly the stomach and gall bladder where quiet respirations are of considerable advantage. In plastic surgery on the head and neck and in neurologic operations it has also been of great benefit.

Evipan.—Although the barbituric acid derivatives are frequently employed as pre-anesthesia sedatives, evipan is the only one which has been employed successfully as a complete anesthetic. Its role is largely limited to minor surgical proceedings or painful dressings. It must be given very slowly with a great deal of care and the amount and rapidity of its administration must be determined by the reaction of the patient. It has occasionally been used for the induction of anesthesia and by some operators has been employed to carry the patient through a major operation in which complete muscular relaxation was not essential. The medication is given in a 10% solution in distilled water intravenously at the rate of 1 cc every 10 or 15 seconds. The patient very quickly becomes somnolent and after 4 or 5 cc have been given, he falls into complete anesthesia, which may be maintained by the slow addition of 3 or 4 cc during the next half hour. As with the other barbiturates, individuals differ considerably in their response to this medication. However, if each patient is treated individually with a prompt response to his condition as he goes under the anesthetic and the further administration of medication with signs of recovery, surgical anesthesia may be safely carried on for a considerable period of time.

SURGERY OF THE ENDOCRINE GLANDS

Thyroid.—The total removal of the thyroid gland for decompensated heart disease and angina pectoris has gradually fallen off in popularity. The hoped-for results which seem to be justified by the earlier operations have in general been disappointing and some of the early favorable effects in individual cases have later disappeared. The artificial production of myxedema or the increase of myxedematous symptoms in those already affected, have frequently left the patient worse than he was before. In some cases where there has been improvement, the patient becomes greatly encouraged, but when symptoms return, the discouragement which follows may carry him to a lower level of optimism than he had before.

Parathyroid.—During the year an increasing number of cases of parathyroid adenomas were operated upon with success, not only those patients who have suffered for a long time with polycystic diseases of the bone, but many cases of renal calculus have been brought into this field of therapy. A careful study of the blood calcium, phosphorus and phosphatase in the cases of renal calculus has indicated the presence of parathyroid adenomas which have been subsequently found at operation and removed. The immediate results of this operation have frequently indicated a temporary absence of parathyroid function, but by the administration of parathormone and calcium the interval may be safely bridged until the normal parathyroids have taken up their function again.

Pancreas.—The condition of hyperinsulism is being recognized with increasing frequency and the presence of adenomas of the Islands of Langerhans have been demonstrated and the condition relieved by removal of the tumor. An early diagnosis of these cases is frequently missed and the patients often go on for a number of years without proper understanding of their symptoms which are thought to be of psychogenic origin. For that reason they are often referred to psychiatric or neurologic hospitals where again the diagnosis is frequently not made until a careful blood study demonstrates a low level of blood sugar. These tumors may be multiple and may be very difficult to find. While they are usually located in the body of the pancreas, they may be in the head close to the duodenum. Therefore it is essential that careful search be made in such cases throughout the entire gland. When the tumors are removed, however, the patient soon returns to normal health, and recurrences are unusual. The administration of insulin after operation is usually not necessary because the normal secreting areas of the gland continue their normal function or rapidly reassume it if it has been temporarily suspended.

Suprarenals.—The relationship of the adrenals to hypertension has continued to occupy the attention of surgery and attempts have been made to control intractable hypertension by the removal of adrenal tissue or by operation upon and division of the nerves controlling the activity of these glands. Results, however, have not been particularly encouraging and a great deal more work will have to be done in this field before it can be determined how effective such procedures can be in this resistant type of disease.

Spleen.—While the spleen may not be considered with certainty as one of the endocrine organs, it may be placed under this heading for purposes of convenience. Little by little the complicated functions of the spleen are being understood. The relationship of the spleen to certain of the blood diseases characterized by hemorrhage are being successfully studied by groups of doctors in a number of medical centers. In this field the advantages of cooperation of many departments is particularly valuable when the physician, surgeon, pathologist and hemocytologist can each make his contribution to the difficult problems of diagnosis and therapy. The indications for splenectomy are being more clearly defined and there has been a gradually increasing knowledge of the various stages of the Banti syndrome and the relationship between spleen and liver.

SURGERY OF THE CHEST

Lungs.—Steady progress has been made in the surgery of the lungs and of the heart. The careful selection of cases of pulmonary tuberculosis has given more and more satisfactory results with a gradual lowering of the operative mortality. The indications for operation may be stated as follows: extensive plural thorocoplasty should only be done when the active disease is limited to one lung and when the patient has shown some evidence of improvement with conservative means but when this improvement has come to a standstill. The operation should be done in several stages and during the procedure the condition of the patient must be constantly watched. If there is any indication of tiring, the operation should be stopped and further procedure postponed until a later stage. In nontuberculous lesions of the chest, particularly in chronic suppurative processes, improved results are steadily being obtained. The problem of lung cancer, however, is still discouraging although occasionally an early tumor in the periphery of the lung has been successfully removed.

Heart.—Progress should be reported in the surgical treatment of coronary disease of the heart. Clinical evidence is gradually accumulating to prove that the circulation of the heart muscle may be improved by the application of the pectoralis major muscle to the surface of the heart and the development of new blood channels by this route. Cases are still being very carefully selected for this procedure but in the hands of the originator of this operation encouraging results have been obtained. Favorable reports are also being made in cases of adherent pericardium and patients who have been incapacitated by this condition have been restored to normal activity.

PREPARATION AND POSTOPERATIVE CARE OF PATIENTS

The risks of operation are gradually being minimized. In many surgical diseases, various physiological functions of the body have been profoundly disturbed. This may occur within a short space of time or be the result of long standing disease. It is important to restore the patient as nearly as possible to a normal physiological function of his various systems before the operative procedure. Such disturbances have frequently been overlooked and operations carried out when the risk is excessive. Recently, however, by more careful chemical studies, these disturbances have been brought to light. They lay particularly in abnormalities of water balance or electrolyte deficiencies in blood or abnormalities of protein content. Many of these disorders can be easily determined by simple laboratory tests and methods have been found for these chemical analyses on very small quantities of blood. Calculations of the specific gravity of the blood and the percentage of red cells are perhaps most important, indicating whether fluid or blood should be administered before operation. The chloride content, the sodium, potassium and calcium determinations, the phosphorus and phosphatase calculations, the percentage of total protein and the relationship of the albumin and globulin are likewise of great importance. Blood amylase may be significant. The amount of bilirubin in the serum and the various clotting elements must be determined in some cases.

Certain of these deficiencies may be promptly remedied, while others require a longer period of preparation. The blood clotting elements are particularly difficult to measure and to rectify if altered. The administration of glucose in jaundiced cases to fortify the liver has been found to be of great value, but its administration without due regard to the other deficiencies should be avoided. Improved tests for liver function have recently been devised, but their value can not be determined without further clinical experience. The relationship of vitamin deficiency to the bleeding tendency comes into play here. However, the favorable reports which have appeared with regard to the effect of vitamin K on the bleeding tendency in jaundiced patients must await confirmation. It is being increasingly recognized that the development of edema that is not of a mechanical nature frequently depends upon a lowering of the serum proteins and an alteration of the albumin-globulin ratio. This deficiency can not be easily remedied but encouraging observations have been made upon the intravenous administration of certain amino acids. Transfusion and high protein diet seem to be the only generally available methods of raising the serum protein but these are not always successful in severe cases. Administration and absorption may be entirely impossible by the alimentary tract.

The same abnormal physiological states may be present after operation as are found before with regard to the various constituents of the blood and require the same methods of treatment. Added to these are the functional disturbances of the alimentary and urinary tracts. The paralysis of the intestine following abdominal operation as well as certain mechanical factors frequently produce an ileus which may prove disastrous unless promptly relieved. The method of suction through a tube inserted into the stomach has been of very great benefit and the principle has been applied to the intestine as well. It has been found that a tube with an inflated balloon on the end of it may pass down by peristaltic action to the site of obstruction and relieve the distressing condition. This procedure has met with increasing favor during the year and has unquestionably been an advance in the preoperative and postoperative care of patients.

THE TREATMENT OF SURGICAL INFECTIONS

The successful use of sulfanilamide in the treatment of hemolytic streptococcus infections reported in 1937 has been generally confirmed. The indications and limitations of this new medicine have been more clearly defined. It is apparently most effective in the acute stages of hemolytic streptococcus invasion before there has been extensive destruction of tissue and less effective after necrosis or abscess formation has developed. Its success in the treatment of hemolytic streptococcus meningitis, a condition formerly almost 100% fatal, has been nothing less than miraculous, but its favorable action in gas gangrene, meningococcus and gonococcus inflammation and in colon bacillus infections has been disappointing. The pyridine derivative of this medicine has been astonishingly effective in pneumococcus infections, particularly of the diffuse type such as lobar pneumonia and meningitis. This medicine is being tried out clinically and experimentally with many other types of infection. In another year, its indications and limitations should be more clearly defined. It may be that other derivatives will be produced to enlarge the field of influence of this group of drugs.

Zinc peroxide is gradually being generally accepted as an effective medication for local application in all types of anaerobic infections and in lesions in which the micro-aerophilic organisms are active. The difficulty of standardization of zinc peroxide has been overcome, and material is now available which can be depended upon actively to develop oxygen when carefully applied to infected wound surfaces, and it controls the infection when susceptible organisms are involved. This material may also be used prophylactically in bad traumatic wounds. It is particularly indicated in wounds due to gunshot or street injuries, where tetanus or gas gangrene is feared. It is also advisable where human or animal bites have been inflicted. It may be employed after complete debridement of the traumatized tissue in all of these cases. It may be used in conjunction with sulfanilamide in ordinary hemolytic streptococcus infections where an operative procedure is required because localization or necrosis has taken place.

OPERATING ROOM TECHNIQUE

Attention has recently been called to newer methods of sterilization of operating room supplies, both instruments and dry goods. An automatic lock has been advocated to be applied to autoclaves. This lock is released only at the end of effective sterilization. Considerable attention has been directed toward the minimizing of air contamination by the use of ultraviolet light. This is effective in diminishing the number of organisms suspended in the air of the operating room, but very careful studies will have to be made to determine the best method of its application. Further studies will have to be made in order to find out what method will be effective in destroying the organisms and at the same time have no deleterious effect upon the tissues of the patient or on the exposed surfaces of the operating personnel. Such an apparatus may be of great value, particularly in operations on the chest or operations on the brain where postoperative infection may develop most easily and its consequences be most disastrous. The problem of postoperative wound infection is one of constantly closing the door to sources from which contamination may come. This contamination should be brought to the irreducible minimum by a multitude of methods, all of which make up the ensemble of sterile technique. In certain places and for certain operations these steps must be very much more rigid than with other operations. In any given operating room, however, the technique should be so developed as to meet the strictest requirements in order to avoid this operative complication which not only prolongs the stay of the patient in the hospitals and the cost of hospitalization but also may defeat the purpose of the operation itself.

PUBLIC HEALTH AND HYGIENE

By Ira V. Hiscock

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GENERAL

Continued progress has been made under the Social Security Act in the establishment of full-time county health units, in the extension of essential measures in health administration, maternal and child health, in research, and in the training of personnel. Important steps were also taken to extend the participation of the Federal Government in public health.

That 6,000,000 people in the United States are unable to work, attend school, or pursue their usual activities on an average day during the winter months on account of illness, injury, or gross physical impairment resulting from disease or accident was the conclusion reported in 1938 by the U.S. Public Health Service as a result of the National Health Inventory. (*Bulletin* of the Division of Public Health Methods, National Institute of Health, U.S. Public Health Service, 1938). It was also estimated that 2,500,000 of these people are disabled because of chronic disease and permanent impairments. The amount of medical service was found to vary inversely with income. Physicians' services per case of illness were approximately 50 per cent less for relief families than for the higher income group. From these records, according to Surgeon General Thomas Parran, "it is clear that the one-third of our population ill fed, ill housed, ill clothed also is ill provided with the opportunity for health and life. Illness among persons on relief is 57 per cent higher than among those in comfortable circumstances. The case rate of chronic illness among those on relief is 87 per cent higher than among those with comfortable incomes. In relief families, 1 in every 20 family heads is unable to work because of illness, while among those in comfortable circumstances only 1 in 250 is similarly disabled." ("Relationship of Maternal and Child Health to the General Health Program" by Thomas Parran, *A.J.P.H.*, Vol. 28, No. 3, March, 1938.)

NATIONAL HEALTH PROGRAM

Among the national conferences relating to public health called in Washington during 1938 was one on Better Care for Mothers and Babies, held in January under the auspices of the Children's Bureau of the U.S. Department of Labor, and attended by over 400 persons from 47 States and the Territories of Hawaii and Alaska. That there has been an unnecessary loss of maternal and infant life was made clear by the facts presented, indicating that more than 14,000 women in the United States die from causes connected with childbirth each year, leaving at least 35,000 children motherless. In addition, more than 75,000 infants are stillborn and more than 69,000 infants die during the first month of life. The Findings Committee pointed out that there has been little reduction in the maternal mortality rate during the 22 years for which records are available. Although the death rate for infants in the first year of life has steadily declined, there has been little reduction in 22 years in the death rate for the first month of life which accounts for nearly half the total loss of life in the first year.

It was recommended that public health services both in cities and rural areas be further developed for the conduct of complete service in maternity and for the new-born infant, through utilizing available competent service under both public and private auspices, extending and improving the public services where they are not adequate to meet the need. The local community should provide maternal and infant care as needed as a part of its public health responsibility, the State giving leadership, financial assistance, specialized service, and supervision in the development of local services as required, the Federal Government assisting the States through financial support, research, and consultant service. It was further recommended that Title V, Section 502, of the Social Security Act be amended to authorize a larger sum to be appropriated annually to the States for maternal and child health services with provision that the increased payments to the States should be used for the improvement of maternal care and the care of new-born infants. (*A.J.P.H.*, Vol. 28, No. 2, February, 1938, p. 229.)

In May, 1938, Congress passed an act "to impose additional duties upon the U.S. Public Health Service in connection with the investigation and control of the venereal diseases," and to aid States and Territories to expand and perfect their facilities and personnel for conquering syphilis and gonorrhea. This legislation was based on recommendations of the Conference of State and Territorial Health Authorities, the American Social Hygiene Association, and cooperating agencies, after careful studies. An appropriation of $3,000,000 was made for the current fiscal year of the Federal Government, of which $600,000 was assigned to the Public Health Service for necessary field studies, research, development of personnel training, and other assistance of value to all the States and population groups. Comprehensive plans have been formulated for the development of this work, with the continuing support of the Federal Government. (*Jour. Social Hygiene,* Vol. 24, No. 7, October, 1938.)

Following the passage of the Social Security Act, the President appointed in 1935 the Interdepartmental Committee to Coordinate Health and Welfare Activities "in order that the full benefits of the various federal programs under the Act provisions might reach with minimum delay and maximum effectiveness the individual men, women, and children for whose aid and service the program was brought into existence." This committee, in July, 1938, called a National Health Conference, consisting of persons invited as individuals for what they might contribute, rather than as representatives of particular groups. The Conference "brought together not only the medical and other professional experts but representatives of labor, farmers, and other groups of citizens who receive or would like to receive adequate health service and medical care." Josephine Roche, chairman of the Committee, indicated at the outset the hope that the Conference might contribute to: (1) a better understanding of national needs in the field of health and medical care, and (2) the formulation of policies which will enable the medical and other professions, private organizations, Federal, state, and local agencies, and individual citizens to cooperate in efforts to meet these ends. Findings of the National Health Inventory and of other studies were reviewed and tentative recommendations were presented by a Technical Committee on Medical Care. Based on analyses of deficiencies of present health services, the recommendations dealt with: (1) the expansion of public health and maternal and child health services, (2) the expansion of hospital facilities, (3) medical care for the medically needy, (4) a general program of medical care, and (5) insurance against the loss of wages during sickness, the first two items being listed for special emphasis and priority. (*A.J.P.H.*, Vol. 28, No. 9, September 1938; Editorial, *J.A.M.A.*, Vol. III, No. 13, September 24, 1938.) Since this conference, professional and lay bodies as well as the technical committee have given active consideration to the details of the proposals, and it is anticipated that plans for an enlarged national health program will be submitted to the next Congress.

PNEUMONIA

Progress has continued in the attack on pneumonia, which ranks among the first three of all causes of death in the United States and Canada. More than 30 types or species of the pneumococcus may give rise to pneumonia. Approximately 95 per cent of the cases of lobar pneumonia and some 50 per cent of the cases of bronchopneumonia are caused by the pneumococcus. The type of pneumococcus is usually determined by microscopic examination of the patient's sputum. Efforts to control pneumonia are concerned with early diagnosis, specific serum treatment, and skilled bedside nursing care.

Type specific antipneumococcus serums for Types I, II, V, VII, and VIII are available to physicians without cost in New York and several other States, and more types will be added as they are produced and shown to be of value. A satisfactory specimen of sputum for typing is the first requisite for serum administration. The family physician is a key person in pneumonia control. Marked reduction in the fatality rate of cases is reported when specific serum treatment is instituted early in the course of the disease. (*Pneumonia and Serum Therapy,* by Frederick T. Lord and Roderick Heffron, The Commonwealth Fund, New York, 1938; "Pneumonia Control" and "Serum for Pneumonia" by Edward S. Rogers and Emma H. MacChesney, *P. H. Nursing,* February and December, 1938.) Studies on Immunizing Substances in Pneumococci suggest the usefulness of an antigen for the control of pneumonia incidence although additional investigations are needed to show the extent and the duration of immunity thus produced as well as to throw light on other related problems. (*P. H. Reports,* U.S. Public Health Service, Oct. 21, 1938.)

SYPHILIS AND GONORRHEA

In addition to the enlarged Federal program previously cited, marked progress was made in States and local communities in the advancement of measures for the control of syphilis and gonorrhea. (*J. Soc. Hyg.,* Year Book Number, Vol. 24, Nos. 5–6, May-June, 1938). It was not until 1935 that a premarital examination law against syphilis was adopted, by Connecticut. Similar laws or amendments were passed in 1937 and 1938 by Illinois, Michigan, Wisconsin, New Hampshire, Kentucky, New York, Rhode Island and New Jersey. In 1938 also, three States, New York, New Jersey and Rhode Island, passed laws requiring serological tests for syphilis of pregnant women as a further step in the protection of the family from this disease. (*J. Soc. Hyg.,* Vol. 24, No. 8, November, 1938; for valuable references see also *J. Soc. Hyg.,* Sixth Annual Library Number, Vol. 24, No. 7, October, 1938.)

PLAGUE

Data have been assembled concerning the extent of human and rodent plague as well as Posteurella pestis infection of fleas and other insects on the American continent. Survey studies have indicated that the infection is more widely distributed than has been generally believed, and may be encountered anywhere in the Sierra Nevada regions. Studies of chipmunks, squirrels, rats and mice have led to warnings emphasizing particularly the dangers in regions in which sylvatic plague has been demonstrated. ("Sylvatic Plague" by K. F. Meyer, *A.J.P.H.* October, 1938.)

YELLOW FEVER

One of the most encouraging and dramatic series of studies and epidemiological investigations in the field of public health has been conducted over a long period of years by scientists of the Rockefeller Foundation. Experience in the production and application of a cultured yellow fever vaccine virus, during which more than 59,000 persons were inoculated, mostly in Brazil, shows that there is available a practicable safe method of large-scale immunization. Reactions to the vaccine occur only in a moderate percentage of cases and are mild. Approximately 95 per cent of those vaccinated under field conditions acquire immunity. Studies on the duration of the immunity are being continued.

Routine survey methods have resulted in a new conception of the importance of yellow fever as a cause of sickness and death in native populations. There has been revealed an unexpected form of the disease occurring in the absence of the Aedes aegypti mosquito, jungle yellow fever, which is not only a severe scourge of exposed rural populations but also a permanent reservoir of infection from which cities and towns may remain in constant danger. Further studies of the ways and means by which jungle yellow fever is maintained, coupled with control measures through individual prophylaxis, are among the problems of the immediate future. (The Rockefeller Foundation, *International Health Division Annual Report for 1937,* New York.)

In considering the problem of yellow fever, and of other insect-borne diseases, reference may also be made to the concern of nations over the rapid multiplication of airplanes and the tremendous increase in their use for personal transportation. Efforts are under way to bring about international agreements and methods for inspection of passengers and for disinsectization of planes. "One has only to look over the various airplane routes . . . to realize the possibilities of spread of disease by planes. . . . Our public Health Service is represented in the International Office of Public Hygiene, and has always been awake to the situation." (Dr. H. Richards, Off. Internat. d'Hyg. Publique, Mar. 1938, p. 563; Editorial, *A.J.P.H.,* Vol. 28, No. 9, September, 1938.)

HEALTH AND HOUSING

The Committee on the Hygiene of Housing of the American Public Health Association has formulated, in a preliminary report, the Basic Principles of Healthful Housing. These principles deal with physiological and psychological needs and protection against contagion and accidents. Specific requirements, with methods of attainment are suggested. (*A.J.P.H.,* Vol. 28, No. 3, March, 1938; "Opportunities and Responsibilities of the Health Officer in Connection with the Federal Housing Acts" C.-E. A. Winslow, *A.J.P.H.,* Vol. 28, No. 11, November, 1938.)

FOOD AND DRUGS

For several years consideration has been given to the more effective legislation relating to foods and drugs. Two new laws were finally adopted to amend and strengthen the Federal Food and Drug Act of 1906. One of these measures, signed by the President in March, 1938 to become effective 60 days later, gave the Federal Trade Commission jurisdiction over false advertising of foods, drugs, devices, and cosmetics. A new Federal Food, Drug, and Cosmetic Act, signed in June to become effective one year from that date, contains broadened definitions of adulteration and misbranding, gives administrative jurisdiction to the Secretary of Agriculture over devices and cosmetics, and, among other things, requires that new drugs can be introduced in interstate commerce only after filing an application, with submission of evidence and data, and the securing of a permit from the Secretary. (Editorial, *J.A.M.A.,* 110:1112, Apr. 2, 1938, and Editorial, *A.J.P.H.,* Vol. 28, No. 9, September, 1938.)

VITAL STATISTICS

In the field of population and vital statistics, the year was one of planning and adjustment. The International Conference for the Revision of the International Classification of Causes of Death met in Paris in October. It was decided that hereafter, in time of war, it will be necessary in classifying mortality to take account separately of the number of deaths from poison gas and from wounds arising out of war, not only among persons in the military service but also among civilians. A change in the rubrics relating to diseases of the heart will enable vital statisticians to tabulate separately the various types of lesions in which rheumatism is a reported factor. The group of "infectious and parasitic diseases" will henceforth be subdivided in a manner to enable statisticians to show the number of deaths ascribed to diseases due to (a) bacteria, (b) protozoa, (c) spirochaetes, (d) filtrable viruses, (e) rickettoiae, (f) helminths, and (g) fungi. There was also readjustment of the titles relating to pregnancy, childbirth, and the puerperal state. (*Statistical Bulletin,* Metropolitan Life Ins. Co., Vol. 19, No. 10, October, 1938.)

The National Resources Committee has prepared useful reports of statistical studies and reviews, among them The Problems of a Changing Population, and Population Statistics, (1) National Data, (2) State Data, (3) Urban Data. (U.S. Gov. Printing Office, Washington, 1937.)

HEALTH PROBLEMS OF YOUTH

Increasing attention has been given to health problems of youth, including the extension of high school programs, the furtherance of programs of health and safety among group work agencies, with emphasis on health education. As an illustration of developments in high schools, reference may be made to the program of guidance in the Oakland (Calif.) University High School, which has three major functions: (1) to study the abilities, interests, and needs of each individual student; (2) to help him to understand his abilities or disabilities, special interests, and apparent needs and to evaluate them so that he may learn to live satisfactorily within his limitations and to develop his capacities to the optimum; (3) to make available to him the resources and experiences in the school and community which will enable him to develop himself and to attain his goals. The school health program, as one of the most important of the special guidance services, is directed toward the achievement of three purposes:

> 1. To furnish to teachers, counselors, and administrators information about health conditions of individual students, if these conditions affect or may be affected by factors in school life. For example, a teacher may observe that a student frowns while reading. She does not know, without follow-up, whether he has defective vision or whether this is an evidence of nervous tension.
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> 2. To advise concerning adjustments for individual students who are temporarily or permanently unable to follow the usual routine of school or to carry the normal school load. It is not sufficient to know that a student has defective vision; the judgment of the expert is essential in indicating whether the student should have a minimum of reading, or whether he should sit in a certain position in classes in order to lessen strain.
>
> 3. To assist in formulating and directing those whole-school policies and procedures which affect the well-being of individuals. Is there adequate provision for rest for students who return to school after illness? What modifications in school routine are advisable for students who have physical handicaps? Such questions require cooperative study and consideration by educators and physicians. (*University High School Journal,* Vol. 17, No. 1, October, 1938, Univ. of Calif. Univ. High School, Oakland, Calif.)

During the past three years the Boy Scouts of America have devoted much effort to a study of health and safety problems of boys and to the development of a program correlated with other activities of community agencies. This program is described in the Interim Report of the Special Medical Advisory Committee, and embraces: (1) protection through inspection of health and safety conditions of troop, pack and scout meeting places; medical examinations of scouts and leaders; training of leaders; investigation of accidents and of illness; (2) education through health instruction, demonstrations and community service; and (3) service through emergency service units to aid persons in distress, resulting from floods, tornadoes, earthquakes, etc. in cooperation with the Red Cross and other relief agencies. For camping, emphasis has been given to medical examinations for all scouts and scout leaders and food handlers before their departure for camps, to the use of only pasteurized milk, to the careful arrangement of schedules in the camp program, and to instruction in methods of health and safety adapted to the use of scouts and scouters. (*Interim Report,* Special Medical Advisory Committee, Boy Scouts of America, 1938.)

MENTAL HYGIENE

The organization of community mental hygiene programs has been the subject of study for many years. As one phase of such a program, the addition to the staff of a clinic for the purpose of assisting parents in the training of children has been tried. That this service can be made an integral part of the work of child health conferences and is welcomed by the parents has been demonstrated in the Eastern Health District of Baltimore, among other places. The value of psychiatric consultation service in an integrated community program, for public health nurses and for social workers is another feature which is receiving increased recognition. ("Mental Hygiene in the Health Department" Allen W. Freeman, *A.J.PH.,* Vol. 28, No. 3, March, 1938.)

VITAL STATISTICS

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SCOPE AND IMPORTANCE

The scope of vital statistics is defined as a numerical registration, tabulation, and analysis of data dealing with population, marriages, divorces, births, deaths, and diseases. Official vital statistics in the United States Bureau of the Census are for the most part limited to births and deaths. The most important facts collected on and tabulated from the birth and death certificates involve such items as place of occurrence of birth and death, place of residence, age, race, occupation, nativity, institution, and cause of death.

In addition to supplying data for the numerous tabulations required by different fields of endeavor, such as public health, social security, public welfare, and population studies, the certificates themselves are essential documents to all citizens as a basis for legal proof of birth and death facts. The importance of the birth and death certificates has enormously increased in the past two years with the establishment of new social legislation dealing with old age and unemployment benefits and death claims. Proof of age and citizenship by means of the birth certificate have become a vital necessity to every citizen.

ORGANIZATION AND FIELD WORK

The registration of births and deaths in the United States is accomplished by a far-flung organization of Federal, state, county, and local officials. Important dates in the history of birth and death registration in the United States may be obtained upon application. Each State is subdivided into registration districts to which local registrars are appointed for the collection of the original certificates.

The struggle for completeness of registration of deaths and births is unremitting. This problem is particularly acute in connection with the registration of births in the rural areas of the South. A variety of devices is being used continually to stimulate registration throughout the country. A certain number of full time field agents are employed by national and state authorities for this purpose. The personnel of the county health departments actively cooperate in securing complete registration. Checks of completeness with attendant publicity campaigns are conducted in areas which are known to be deficient.

REVISED STANDARD CERTIFICATES OF BIRTH, DEATH, AND STILLBIRTH

The standard birth and death certificates of the Bureau of the Census have been revised during the current year. For the first time, the Bureau recommends a standard stillbirth certificate as a record separate from the birth certificate. Examples of these certificates may be had upon application.

Widespread clearance was carried out over a period of a year and a half in connection with the revision of the certificates. By questionnaire and conference, all interested groups were contacted, including health officers, registration officials, physicians, national and local medical societies, undertakers, government agencies, scientific groups, students, and specialists. The forms adopted have been generally approved.

REVISION OF MODEL LAW FOR VITAL STATISTICS

The first vital statistics Model Law was formulated in 1907 and adopted by all States with certain minor modifications. The need for a new Model Law arises from the necessity for broadening the legal theory upon which the law previously was based. Prior to this time the law had been founded upon the police power of the State of which public health is an adherent attribute. The new law stresses the evidentiary character of the records of vital statistics so as to protect the rights of the citizen by preserving evidence needed by him for legal proof of the facts of birth and death. In general, the form of the law may be termed a "frame or skeleton statute." It contains the more general principles of substantiary, procedural and administrative law to be followed. It leaves details to rules and regulations to be issued by the State Boards of Health. These rules and regulations will have the effect of law provided they are reasonably necessary to carry out the legislative intent. Model rules and regulations have also been drafted by the Bureau of the Census.

INTERNATIONAL LIST OF CAUSES OF DEATH

The decennial revision of the International List of Causes of Death took place at a conference in Paris during October, 1938. The United States' recommendations, which were the result of four years of intensive cooperative work between the Bureau of the Census and a subcommittee of the American Public Health Association, were accepted for the most part. The major changes in the new International List of Causes of Death, Exhibit 4, involve the titles of the cardiac, puerperal, and accidental causes.

PUBLICATIONS

The annual volumes of *Birth, Stillbirth, and Infant Mortality Statistics* and *Mortality Statistics* for 1936 have been completed. Volumes 5 and 6 of the *Vital Statistics—Special Reports* series, the *Weekly Health Index,* the *Weekly Accident Bulletin,* the *Registrar,* and the *Monthly Vital Statistics Bulletin* have all been published throughout the year.

The *Monthly Vital Statistics Bulletin* is a new publication. It presents the number of birth and death certificates which have been received during the preceding month in the offices of the state registrars. The number of certificates received are correlated with the actual number of births and deaths for corresponding months. Consequently, the possibility exists for the first time to issue national provisional figures for birth and death in January for the preceding year.

SPECIAL TABULATIONS AND SUMMARY TABLES

Extensive tabulations by place of residence for cancer, tuberculosis and puerperal conditions were released for the first time by the Bureau as a part of the *Vital Statistics—Special Reports* series. Original tabulation analyzing the effect of selection of the primary cause of death by use of the classification of joint causes of death was also published.

The United States has been requested by the International Conference for Revision of Causes of Death to carry out a ten-year study in order to evaluate the comparability of death rates on an international scale.

Summary tables for births and deaths, national and state, as well as for the principal causes of death, are given as follows:

NATALITY AND MORTALITY, BY STATES, 1937

Area	Estimated population July 1, 1937	Live births		All deaths		Deaths under 1 year	
		Number	Rate per 1,000 estimated population	Number	Rate per 1,000 estimated population	Number	Per 1,000 live births
United States..	129,257,000	2,203,337	17.0	1,450,427	11.2	119,931	54.4
Alabama..........	2,895,000	61,611	21.3	30,843	10.7	3,844	62.4
Arizona...........	412,000	10,494	25.5	6,919	16.8	1,267	120.7
Arkansas..........	2,048,000	35,236	17.2	18,364	9.0	1,919	54.5
California.........	6,154,000	94,230	15.3	80,256	13.0	5,070	53.8
Colorado..........	1,071,000	19.610	18.3	13,833	12.9	1,441	73.5
Connecticut.......	1,741,000	22,774	13.1	17,892	10.3	921	40.4
Delaware..........	261,000	4,355	16.7	3,290	12.6	278	63.8
District of Columbia	627,000	12,343	19.7	8,727	13.9	751	60.8
Florida...........	1,670,000	29,507	17.7	20,960	12.6	1,765	59.8
Georgia...........	3,085,000	64,061	20.8	34,446	11.2	3,952	61.7
Idaho.............	493,000	10,369	21.0	4,752	9.6	453	43.7
Illinois............	7,878,000	115,282	14.6	87,739	11.1	4,967	43.1
Indiana...........	3,474,000	56,087	16.1	40,929	11.8	2,789	49.7
Iowa.............	2,552,000	42,105	16.5	26,485	10.4	1,862	44.2
Kansas...........	1,864,000	29,325	15.7	19,204	10.3	1,302	44.4
Kentucky.........	2,920,000	56,163	19.2	30,899	10.6	3,321	59.1
Louisiana.........	2,132,000	46,006	21.6	25,010	11.7	3,020	65.6
Maine............	856,000	15,246	17.8	11,465	13.4	996	65.3
Maryland.........	1,679,000	27,739	16.5	22,083	13.2	1,705	61.5
Massachusetts.....	4,426,000	61,736	13.9	52,248	11.8	2,723	44.1
Michigan..........	4,830,000	91,539	19.0	53,472	11.1	4,386	47.9
Minnesota.........	2,652,000	48,036	18.1	26,905	10.1	1,961	40.8
Mississippi........	2,023,000	52,095	25.8	23,856	11.8	3,066	58.9
Missouri..........	3,989,000	56,951	14.3	44,974	11.3	3,219	56.5
Montana..........	539,000	10,248	19.0	6,128	11.4	518	50.5
Nebraska.........	1,364,000	22,270	16.3	13,199	9.7	937	42.1
Nevada...........	101,000	1,742	17.2	1,322	13.1	70	40.2
New Hampshire....	510,000	7,633	15.0	6,528	12.8	367	48.1
New Jersey........	4,343,000	54,607	12.6	45,003	10.4	2,154	39.4
New Mexico.......	422,000	13,837	32.8	6,422	15.2	1,711	123.7
New York.........	12,959,000	185,502	14.3	153,772	11.9	8,369	45.1
North Carolina....	3,492,000	79,080	22.6	33,981	9.7	5,180	65.5
North Dakota.....	706,000	12,637	17.9	5,440	7.7	662	52.4
Ohio..............	6,733,000	107,576	16.0	80,189	11.9	5,332	49.6
Oklahoma.........	2,548,000	41,456	16.3	21,313	8.4	2,345	56.6
Oregon...........	1,027,000	15,457	15.1	12,341	12.0	642	41.5
Pennsylvania......	10,176,000	161,288	15.8	114,949	11.3	8,109	50.3
Rhode Island......	681,000	10,240	15.0	8,334	12.2	487	47.6
South Carolina.....	1,875,000	40,643	21.7	20,540	11.0	3,074	75.6
South Dakota.....	692,000	11,908	17.2	5,959	8.6	608	51.1
Tennessee.........	2,893,000	51,938	18.0	30,232	10.5	3,171	61.1
Texas.............	6,172,000	116,057	18.8	65,448	10.6	8,575	73.9
Utah.............	519,000	12,693	24.5	4,989	9.6	526	41.4
Vermont..........	383,000	6,326	16.5	4,981	13.0	313	49.5
Virginia...........	2,706,000	51,950	19.2	31,119	11.5	3,619	69.7
Washington.......	1,658,000	25,036	15.1	19,094	11.5	998	39.9
West Virginia......	1,865,000	42,240	22.6	19,190	10.3	2,610	61.8
Wisconsin.........	2,926,000	53,543	18.3	31,973	10.9	2,324	43.4
Wyoming.........	235,000	4,530	19.3	2,430	10.3	252	55.6

DEATH RATE PER 100,000 ESTIMATED POPULATION FOR PRINCIPAL CAUSES IN THE REGISTRATION AREA IN CONTINENTAL UNITED STATES

Cause of death	1900	1910	1920	1925	1930	1935	1936	1937
All causes (exclusive of stillbirths)	1,755.0	1,496.2	1,303.8	1,184.1	1,133.9	1,092.2	1,151.8	1,122.1
Typhoid and paratyphoid fever	35.9	23.5	7.8	8.0	4.8	2.8	2.5	2.1
Smallpox	1.9	0.4	0.6	0.7	0.1	(1)	(1)	(1)
Measles	12.5	12.3	8.8	2.3	3.2	3.1	1.0	1.2
Scarlet fever	10.2	11.6	4.6	2.7	1.9	2.1	1.9	1.4
Whooping-cough	12.1	11.4	12.5	6.7	4.8	3.7	2.1	3.9
Diphtheria	43.3	21.4	15.3	7.8	4.9	3.1	2.4	2.0
Influenza and pneumonia (all forms)	203.4	162.1	208.0	123.4	102.7	104.0	119.3	114.5
Influenza	22.9	14.4	70.9	29.7	19.5	22.1	26.3	29.4
Bronchopneumonia[2]	21.9	47.1	54.5	38.7	34.3	33.4	36.8	35.4
Lobar pneumonia	158.6	46.4	73.0	49.9	45.4	45.2	52.8	46.6
Pneumonia, unspecified		54.3	9.5	5.1	3.5	3.2	3.4	3.1
Erysipelas	5.1	4.5	3.1	2.4	2.1	1.7	1.6	1.0
Epidemic cerebrospinal meningitis	(3)	0.4	1.6	1.1	3.6	2.1	2.4	1.7
Tuberculosis of the respiratory system	180.5	136.0	97.0	75.9	63.4	49.8	50.6	49.0
Other forms of tuberculosis	21.4	24.3	17.0	10.8	8.1	5.2	5.0	4.6
Malaria	7.9	2.2	3.6	2.1	2.9	3.5	3.1	2.1
Cancer and other malignant tumors	63.0	76.2	83.2	92.8	97.3	107.9	111.0	112.0
Diabetes mellitus	9.7	14.9	16.0	16.9	19.0	22.2	23.7	23.7
Cerebral hemorrhage and softening	71.5	75.7	81.7	81.0	81.0	76.6	81.2	77.0
Diseases of the heart[4]	132.1	158.8	159.1	185.7	205.7	213.1	227.9	222.3
Bronchitis	45.7	23.4	13.2	6.5	4.2	3.1	3.4	3.1
Diarrhea and enteritis[5]	133.2	117.4	54.3	39.4	26.3	14.1	16.3	14.6
Appendicitis	9.7	11.4	13.4	15.2	15.3	12.7	12.8	11.9
Hernia, intestinal obstruction[6]	12.2	12.4	10.6	10.8	10.3	10.3	10.5	10.1
Cirrhosis of the liver	12.9	13.9	7.1	7.3	7.2	7.9	8.2	8.5
Nephritis	89.0	99.1	89.2	96.5	90.8	81.2	83.2	79.6
Puerperal septicemia	5.7	7.2	6.6	5.5	4.6	4.1	3.6	2.9
Other puerperal causes	7.6	8.5	12.5	9.3	8.2	5.8	5.9	5.4
Congenital malformations and diseases of early infancy	91.8	88.1	84.7	74.0	61.0	49.4	49.7	49.0
Suicide	11.5	16.0	10.2	12.1	15.7	14.3	14.2	14.9
Homicide	2.1	5.9	7.1	8.6	9.0	8.3	8.0	7.6
Automobile accidents[7]	(3)	1.8	10.4	17.1	24.5	26.8	27.8	28.8
Automobile—railroad collisions	(3)	(3)	(3)	1.2	1.5	1.2	1.3	1.4
Automobile—street car collisions	(3)	(3)	(3)	0.5	0.4	0.2	0.2	0.2
Other external causes	79.0	82.6	60.9	59.7	54.2	50.1	56.5	51.0
Unknown and ill-defined diseases	73.8	23.1	17.7	17.4	21.0	16.1	16.4	15.9

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[1] Less than one-tenth of 1 per 100,000 population.

[2] Includes capillary bronchitis.

[3] Not separately tabulated.

[4] Excludes diseases of coronary arteries.

[5] From 1900 to 1920 includes ulcer of the duodenum.

[6] From 1900 to 1920 includes adhesions of intestines.

[7] Excludes deaths from collision with railroad and street cars.

GROWTH OF THE REGISTRATION AREAS

Calendar Year	Estimated Population of Continental United States	Death Registration Area in Continental United States					Birth Registration Area in Continental United States				
		Population		Deaths		Number of States	Population		Births		Number of States
		Number	Per cent of total	Number	Rate per 1,000 population		Number	Per cent of total	Number	Rate per 1,000 population	
1937	129,257,000	129,257,000	100.0	1,450,427	11.2	48	129,257,000	100.0	2,203,337	17.0	48
1936	128,429,000	128,429,000	100.0	1,479,228	11.5	48	128,429,000	100.0	2,144,790	16.7	48
1935	127,521,000	127,521,000	100.0	1,392,752	10.9	48	127,521,000	100.0	2,155,105	16.9	48
1934	126,626,000	126,626,000	100.0	1,396,903	11.0	48	126,626,000	100.0	2,167,636	17.1	48
1933	125,770,000	125,770,000	100.0	1,342,106	10.7	48	125,770,000	100.0	2,081,232	16.5	48
1932	124,974,000	120,291,000	96.3	1,308,529	10.9	47	119,027,000	95.2	2,074,042	17.4	47
1931	124,113,000	119,479,000	96.3	1,322,587	11.1	47	117,522,000	94.7	2,112,760	18.0	46
1930	123,091,000	118,472,000	96.2	1,343,356	11.3	47	116,556,000	94.7	2,203,958	18.9	46
1929	121,526,429	116,317,515	95.7	1,386,363	11.9	46	115,097,972	94.7	2,169,920	18.9	46
1928	119,861,607	114,258,516	95.3	1,378,675	12.1	44	113,050,663	94.3	2,233,149	19.8	44
1927	118,196,785	108,177,568	91.5	1,236,949	11.4	42	103,575,656	87.6	2,137,836	20.6	40
1926	116,531,963	104,938,301	90.1	1,285,927	12.3	41	89,682,479	77.0	1,856,068	20.7	35
1925	114,867,141	102,951,999	89.6	1,219,019	11.8	40	87,486,096	76.2	1,878,880	21.5	33
1924	113,202,319	100,082,062	88.4	1,173,990	11.7	39	86,256,025	76.2	1,930,614	22.4	33
1923	111,537,497	97,816,104	87.7	1,193,017	12.2	38	80,694,406	72.3	1,792,646	22.2	30
1922	109,872,675	93,866,240	85.4	1,101,863	11.7	37	79,415,841	72.3	1,774,911	22.3	30
1921	108,207,853	89,102,434	82.3	1,032,009	11.6	34	70,738,177	65.4	1,714,261	24.2	27
1920	106,543,031	87,632,592	82.3	1,142,558	13.0	34	63,740,689	59.8	1,508,874	23.7	23
1919	105,003,065	85,166,043	81.1	1,096,436	12.9	33	61,483,423	58.6	1,373,438	22.3	22
1918	103,587,955	81,333,675	78.5	1,471,367	18.1	30	55,515,241	53.6	1,363,649	24.6	20
1917	102,172,845	74,984,498	73.4	1,068,932	14.3	27	54,771,416	53.6	1,353,792	24.7	20
1916	100,757,735	71,349,162	70.8	1,001,921	14.0	26	32,788,670	32.5	818,983	25.0	11
1915	99,342,625	67,095,681	67.5	909,155	13.6	25	30,936,179	31.1	776,304	25.1	10
1914	97,927,516	65,813,315	67.2	898,059	13.6	25					
1913	96,512,407	63,200,625	65.5	890,848	14.1	24					
1912	95,097,298	60,359,974	63.5	838,251	13.9	23					
1911	93,682,189	59,183,071	63.2	839,284	14.2	23					
1910	92,267,080	53,831,742	58.3	805,412	15.0	[a]21					
1909	90,691,354	50,870,518	56.1	732,538	14.4	18					
1908	89,073,360	46,789,913	52.5	691,574	14.8	17					
1907	87,455,366	43,016,990	49.2	687,034	16.0	15					
1906	85,837,372	41,983,419	48.9	658,105	15.7	15					
1905	84,219,378	34,052,201	40.4	545,533	16.0	10					
1904	82,601,384	33,345,163	40.4	551,354	16.5	10					
1903	80,983,390	32,701,083	40.4	524,415	16.0	10					
1902	79,365,396	32,029,815	40.4	508,640	15.9	10					
1901	77,747,402	31,370,952	40.3	518,207	16.5	10					
1900	[b]75,994,575	30,765,618	40.5	539,939	17.6	10					
Census year											
1900	[b]75,994,575	28,807,269	37.9	512,669	17.8	9					
1890	62,947,714	19,659,440	31.2	386,212	19.6	8					
1880	50,155,783	8,538,366	17.0	169,453	19.8	2					

[a] North Carolina is included, although returns were received only from municipalities having populations of 1,000 or more in 1900; the remainder of the State was added in 1916.

[b] Population for Census year ending May 31.

NOTE.—For every year the District of Columbia was in both areas, but is not included in the "number of States"; the death area also included a varying number of registration cities in nonregistration States.

PERIODICAL PUBLICATIONS

American Druggist
572 Madison Ave., New York City.
American Journal of Anatomy
36th. Street and Woodland Ave., Philadelphia.
American Journal of Cancer
654 Madison Ave., New York City.
American Journal of Clinical Pathology
Mount Royal and Guilford Aves., Baltimore, Md.
American Journal of the Medical Sciences
600 South Washington Sq., Philadelphia.
American Journal of Nursing
50 West 50th. Street, New York City.
American Journal of Obstetrics and Gynecology
3523 Pine Boulevard. St. Louis, Mo.
American Journal of Pathology
818 Harrison Ave., Boston.
American Journal of Pharmacy
Philedelphia College of Pharmacy and Science, Philadelphia.
American Journal of Public Health and the Nation's Health
50 West 50th Street, New York City.
American Journal of Surgery
49 West 45th. Street, New York City.
Anatomical Record
36th. Street and Woodland Ave., Philadelphia.
Annals of Medical History
76 Fifth Ave., New York City.
Annals of Surgery
227 South Sixth Street, Philadelphia.
Journal of the American College of Dentists
632 West 168th. Street, New York City.
Journal of the American Dental Association
212 East Superior Street, Chicago.
Journal of the American Institute of Homeopathy
280 Madison Ave., New York City.
Journal of the American Medical Association
535 North Dearborn Street, Chicago.
Journal of the American Pharmaceutical Association
2215 Constitution Ave., Washington, D.C.
Journal of Bacteriology
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Bone and Joint Surgery
The Fenway, Boston.
Journal of Clinical Investigation
654 Madison Ave., New York City.
Journal of Dental Research
632 West 168th. Street, New York City.
Journal of Experimental Medicine
York Ave. and 66th. Street, New York City.
Journal of Infectious Diseases
629 South Wood Street, Chicago.
Journal of Nervous and Mental Disease
64 West 56th. Street, New York City.
Journal of Pharmacology and Experimental Therapeutics
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Social Hygiene
50 West 50th. Street, New York City.
Medical Life
4 St. Luke's Place, New York City.
Medical Record
20 Vesey Street, New York City.
Medical Review of Reviews
4 St. Luke's Place, New York City.
Medicine
Mount Royal and Guilford Aves., Baltimore, Md.
N.Y. State Journal of Medicine
33 West 42nd. Street, New York City.
Radiology
607 Medical Arts Building, Syracuse, N.Y.
Surgery, Gynecology and Obstetrics
54 East Erie Street, Chicago.
Yale Journal of Biology and Medicine
New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of Medicine, 2 E. 103rd St., New York City.

Alliance Against Frauds, 36 W. 44th Street, New York City.

Allied Dental Council, 145 West 57th St., New York City.

American Academy of Applied Dental Science, 587 Fifth Ave., New York City.

American College of Surgeons, 40 E. Erie St., Chicago, Ill.

American Gynecological Society, 1220 Park Ave., New York City.

American Heart Assn., Inc., 50 West 50th St., New York City.

American Institute of Homeopathy, 280 Madison Ave., New York City.

American Laryngological, Rhinological and Otological Society, Inc., 708 Medical Arts Building, Rochester, N.Y.

American Medical Assn., 535 N. Dearborn St., Chicago, Ill.

American Occupational Therapy Assn., 175 Fifth Ave., New York City.

American Ophthalmological Society, 255 S. 17th St., Philadelphia, Pa.

American Osteopathic Assn., 540 N. Michigan Ave., Chicago, Ill.

American Physiological Society, 303 East Chicago Ave., Chicago, Ill.

American Society of Clinical Pathologists, 531 N. Main St., South Bend, Ind.

American Society for the Control of Cancer, 1250 Sixth Ave., New York City.

American Society of Tropical Medicine, Ohio State University College of Medicine, Columbus, O.

American Veterinary Medical Assn., 221 N. La Salle St., Chicago, Ill.

Association of American Medical Colleges, 5 S. Wabash Ave., Chicago, Ill.

Association of Military Surgeons of the U.S., Army Medical Museum, Washington, D.C.

Edward L. Trudeau Foundation for Research and Teaching in Tuberculosis, Saranac Lake, N.Y.

National League of Nursing Education, 50 West 50th St., New York City.

National Tuberculosis Assn., 50 West 50th St., New York City.

New York Academy of Sciences, 77th St. and Central Park West, New York City.

New York Health Department, Inc., 125 Worth St., New York City.

Osteopathic Aid Assn., 60 East 42nd Street, New York City.

Public Health Committee, 2 E. 103rd St., New York City.

Rockefeller Foundation, 49 W. 49th Street, New York City.

Society of American Bacteriologists, Agricultural Hall, University of Wisconsin, Madison, Wis.

Society of Medical Jurisprudence, 477 First Ave., New York City.

Southern Medical Assn., 1928 First Ave., Birmingham, Ala.

United Hospital Fund, 370 Lexington Ave., New York City.

DIVISION XXIV
PHILOSOPHICAL AND SOCIAL SCIENCES

PSYCHOLOGY

By Wilbur S. Hulin

Professor, Oregon State System of Higher Education

SENSATION

Vision.—H. Helson offers a new approach to the "fundamental problems of color vision:" he shows that a comprehension of illumination, background and adaptation, also of the adaptation of reflectance, must be taken into account in all color measurements, and that it is inadequate and artificial to describe independence of object as against illumination-color or to separate such functions as constancy, contrast, adaptation and conversion, or differences in behavior of film and surface color (*J. Exper. Psych.*, Nov.). In his book on *Psychological Optics* (The Professional Press), V. W. Grant emphasizes the perceptual level of visual experience, and the adaptive nature of experience is implied in the type of explanations used. B. R. Phillip recommends the Ishahara color-blind tests for determining conditions requiring caution in industrial work, and he recommends the Holmgren skeins to test the degree of confusion between colors (*Amer. J. Psych.*, July). Vision becomes progressively poorer for a fixated point as the surroundings are brighter and are progressively widened; but vision for a point is progressively better when the surroundings are dimmer and are progressively widened; this finding should be of value in determining certain optical hazards in automobile driving: M. B. Fisher (*J. Exper. Psych.*, Sept.). W. E. Walton and R. W. Bornemeier have indicated that rats can discriminate between red and blue but probably not between yellow and green (*J. Genet. Psych.*, Mar.).

Binocular Facts.—Binocular depth perception and the retinal rivalry between the eyes are closely identified in function by H. Werner (*Amer. J. Psych.*, July). S. R. Wallace adapted one eye to a certain amount of illumination and then compared in adjacent stereoscopic fields the responses of two eyes; he found that the apparent brightness in the eye exposed later than the other would shift suddenly toward an equality with the other, and then the brightness would oscillate between the difference caused by the different light adaptations and equality (*J. Gen. Psych.*, July).

Audition.—S. S. Stevens and H. Davis have compiled a comprehensive volume on *Hearing, Its Psychology and Physiology* (Wiley) which brings together the numerous studies of recent years on the action current measurements of the auditory nerve; also the new formulation of the introspective picture of sound as a resultant of many factors, even in simple judgments of pitch, is discussed. Deaf children who have lost their hearing between the years of two to five have a certain superiority over the congenitally deaf in the ability to learn language, according to N. Keys and L. Boulware (*J. Educ. Psych.*, Sept.). In rats the sensitivity (that is the absolute threshold) to sound was similar to man's at 8,000 cycles but was less acute for lower tones than man: F. M. Henry (*J. Comp. Psych.,* Aug.).

Sense of Touch.—W. L. Jenkins doubts that the sensation of "hot" involves a cold component, as claimed by Alrutz, because naive individuals often do not report 'heat' when stimulated with a grill of alternate warm and cold surfaces (*J. Exper. Psych.* Oct.). The volume of blood in peripheral capillaries is sharply reduced in the presence of pain: J. P. Nafe (*Amer. J. Psych.,* Jan.).

Vibration.—S. B. Cummings has found that local anesthesia, which caused a complete loss of pressure sensitivity, only caused a slight reduction in sensitivity to 256 vibrations a second on the skin; this difference remained true even when nine square cm. of skin were anesthetized; this indicates that the vibration was sensed by deep-lying receptors (*J. Exper. Psych.,* Oct.). L. H. Cohen and S. L. Lingley have also worked on "pallesthesia" and find that this vibration sense is independent of cutaneous sensitivity; they do, however, find lower thresholds on fleshy areas than on bony areas, contrary to the belief of some that this is essentially a kind of bone sensibility (*Amer. J. Psych.,* Jan.).

Organic.—H. C. Werner describes the experience of "somatic objects" which arise from complexes of experience of cutaneous, kinesthetic and visceral origin; for example, a nonsomatic object seems to be "doing something" to the body; somatic events occupy the whole body and often influence the "contour" of the connections between it and the external objects (*ibid,* April).

Vestibular.—Rotation, when the head is held upright or bent forward or backward, is followed by three different amounts of response, such as the nystagmus response; greatest dizziness was exhibited when the head was held in the usual upright position: R. C. Travis (*J. Exper. Psych.,* Sept.).

Taste.—A. H. Holway and L. M. Hurvich believe that a solution which stimulates taste induces two effects: (1) a mechanical, pressure effect and (2) a special chemical effect; the first effect is shown by the relation between increased pressure and decreased reaction time in reporting a taste sensation (*ibid,* Aug.).

PERCEPTION

Time.—Time estimation, according to V. G. Schaefer and A. R. Gilliland, does not vary with such physiological changes as rate of heart beat, blood pressure and breathing rate, but rather to attitudes of expectancy and to various sensory cues (*ibid,* Nov.). J. J. Harton also finds that time is perceived according to the activity of the individual; when one counts the fast beating of the metronome time seems to go more quickly than when the metronome beats slowly, but if the beats must be grouped by the individual then time is judged to be faster with the slow beats (*ibid,* Sept.). "Time-errors," that is, the differences in one's judgments on variables in experience resulting from the influence of prior experiences, have an underlying neurological cause; according to G. Kreezer the activation of cortical projection areas of the brain produces a greater facilitation or summation of subsequent afferent impulses which excite the area (*Amer. J. Psych.,* Jan.).

FEELING AND EMOTION

Feeling.—W. A. Hunt and J. Flannery show that one's feelings and effective judgment become more changeable in the presence of a wider number of items to be judged or with a larger number of catagories by which the stimuli are to be judged (*ibid,* Jan.). M. A. Tinker finds that the textures of objects affect the afferent judgment of the colors; thus textures judged as warmer are preferred to textures judged as cooler (*ibid,* July).

Art.—The McAdory Art Test was applied to American Indians, Dutch white children and college graduates by M. Steggerda and A. Macomber; the principal difference in the reaction of these groups occurred more in terms of awareness of utility values than of art appreciation; the Indians judged only the things seen as objects in terms of their advantages or handicaps; the whites assumed a greater degree of aesthetic attitude; the suggestion was offered that to test art appreciation in the Indians they should be shown pictures of objects common to their own culture, such as robes and pottery (*J. Comp. Psych.* Oct.). A comprehensive treatment is *The Psychology of Music* (M'Graw-Hill) by C. E. Seashore, a book for the general reader as well as for teachers and research students. C. C. Pratt points out a difference between "structural and expressive" forms of music; certain smaller works of Haydn may be perfect structurally though lacking the expressiveness of a work by Debussy; it is difficult to state where the emotionality of expressiveness seeps in (*J. Psych.*, Jan.).

Emotion.—A gun-shy dog exhibited increased heartbeat to the shock of a gunshot; but exhibited less of an increase when the heartbeat was already accelerated preceding the stimulation of the gun-shyness; in both cases the emotional peak was reached in ten seconds and persisted for three minutes; the increase of heartbeat is similar to that shown in gleeful behavior and opposite to the decreased heartbeat shown in cowering (after a slap): J. J. Beebe-Center and S. S. Stevens (*J. Exper. Psych.*, Sept.). D. A. Prescott has written on *Emotion and the Educative Process* (Amer. Council Educ.), recommending a systematic study of feelings and emotions in the school pupil. The emotional state of a student when faced with final examinations offers a situation in real life which can be studied by laboratory methods; C. H. Brown and D. van Gelder found an increase of blood pressure, of pulse rate and of blood sugar before the examinations are taken, with a quick return to normal physiological conditions afterward (*J. Psych.*, Jan.).

THINKING

H. P. Weld has employed the narrative of a murder trial and all its attendant testimony (from Wigmore's *Principles of Judicial Proof*) as a test of the course of opinion expressed by groups of college students; the several members of the groups showed comparable shifts in judgment as the development of the testimony progressed (*Amer. J. Psych.*, Oct.). The terms "symbol" and "symbolizing" are not adequately described psychologically in their application to the higher mental processes, says T. A. Ryan; symbolizing is a process of understanding, of producing "a transition in which the organism is governed by one object or product of activity in producing another object of a certain different order;" this can be illustrated by mathematical thinking (*ibid*, Apr.). The "Will" has received diminishing regard as a psychological process, K. Gordon asserts, but there are new interpretations of this concept which have value; in one's life there are elements of persistency, originality and constructiveness which indicate a "range and substance" to our organized living which imply a purposiveness beyond the usual stimulus-response description (*J. Psych.*, Apr.).

Disorders of attention are frequent in psychoneurotic patients; V. I. Butorin distinguishes between two groups of symptoms; patients who are recovering from a mental shock are apt to have a fixed attention directed by a dominating emotion and, on the other hand, patients who are undergoing functional changes of the nervous system are apt to have unstable attention (*J. Gen. Psych.*, Apr.).

LEARNING

General.—L. R. Wheeler has discovered that many of the words most frequently used in primary school books are not the ones most easily learned by children; many factors influence the learning of the primary vocabulary; free-play activity is one important source of training (*J. Genet. Psych.*, Mar.). When animals have learned a maze of one pattern there is considerably greater difficulty in learning a maze which is the mirror-image of the first; L. Carmichael concludes that specific elements in past learning persist to modify subsequent learning (*ibid*).

Conditioned Response.—The conditioning of responses and also the experimental extinction of conditioned responses is modified by whatever general incentives are present in the organism; even sheer inertia of movement has been shown by E. A. Lipman and E. Culler to act as a general influence to weaken positive reflexes and produce extinction, and thereafter exceptionally strong reenforcing stimuli are needed to overcome this negative effect of inertia (*Amer. J. Psych.*, Jan.). There is an organization in learned acts which comes with backward as well as forward association of material; there comes a variation of emphasis which can cause the subsequent response to a stimulus to become a stimulating factor itself: E. Primoff (*J. Psych.*, Apr.). J. M. Porter tested the possibility of a "backward conditioning of the eyelids" and failed to elicit any; this result agrees with the conclusion of Pavlov and others against the reversal of stimulus conditions in the C R situation; those who claimed a backward conditioning possibly overlooked the presence of latency or heightened sensitiveness in the second stimulus (*J. Exper. Psych.*, Oct.).

Memory and Motives.—"Memory and motives" are closely linked, says A. J. Marrow, who studied this relationship between "goal tension and recall;" he found that when a person is set to do a task and is interrupted in the completion of the task this lack of fulfillment of the purpose causes the item to be remembered better than those items which are completed; in a large number of assigned tasks the uncompleted ones were remembered 57 per cent better than the completed ones (*J. Gen. Psych.*, July). When the "inappropriate reward" of quinine-water was offered to rats which were learning a maze, a longer time and more exploratory movements took place during the learning process than with pleasanter rewards (*J. Comp. Psych.*, Oct.). The addition of punishment in the form of electric shock accelerates learning, according to G. C. Drew, but the shock can be administered anywhere in the problem situation, even at the final food-reward; thus the shock is not merely an "emphasizer" on crucial points, but is a general influence affecting alertness, caution and mobility (*J. Genet. Psych.*, Mar.). The "retroactive inhibition" of subsequent learning on previous memories is more effective when the recall of the earlier memories is made up of a jumbled presentation of the earlier material than when the material is given in the original order of presentation (*J. Exper. Psych.*, Sept.).

PHYSIOLOGICAL

Brain.—Evidence of a "physical-chemical process" occurring in the brain activity is indicated by C. A. Elsberg and H. Spotnitz who have derived mathematical formulae for the rate of visual and olfactory adaptation similar to formulae for certain changes in chemical combinations (*J. Genet. Psych.*, Oct.). In destroying portions of the cerebral cortex of rats C. P. Stone demonstrated that with 30 per cent destruction the animals could still perform the usual maternal activities but could not learn mazes of simple design; with a destruction of 40 per cent of the cortex the maternal behavior is disrupted although breeding activity and parturition are less affected (*J. Comp. Psych.*, Oct.). When subcortical lesions were made in rat brains by C. W. Brown and E. E. Ghiselli there was not much loss in learning ability, especially when the destruction was upon the nuclei of the cranial nerves (except in case of the optic nerve); thalamic lesions reduced the learning ability to a greater degree (*ibid*). Removal of the temporal lobe on one side of the monkey's brain by H. Klüver and P. C. Bucy produced a "psychic blindness" or "agnosia," a condition in which the comprehension of seen objects is reduced although vision itself is not impaired; it is noteworthy that injury to the temporal lobe seemed to cause visual confusion rather than auditory disturbance (*J. Psych.*, Jan.).

Electro-encephalograms.—A very convenient general description of the methods and results of encephalogram studies is offered by G. Kreezer who also indicates the possible interpretations of psychological phenomena (*Amer. J. Psych.,* Oct.). H. Hoagland, D. Cameron, M. Rubin and J. Tegeberg have recorded encephalograms from the roof of the mouth which register the activity of the base of the brain; in emotional states, induced by quizzing the person about disturbing memories, the waves from the roof of the mouth precede those from the top of the head; this indicates that emotional states arise from nervous activity of the basal ganglia (*J. Gen. Psych.,* Oct.). D. B. Lindsley has found that the standard "alpha rhythm" encephalogram arises from the parietal and temporal regions as well as the occipital, and this suggests that the rhythm represents the influence of a common sub-cortical source, such as the thalamus (*J. Exper. Psych.,* Aug.).

Behavior.—Behavior as an object of psychological study needs to be analyzed into significant categories; to answer this need, D. G. Ryans has described "the major observable dimensions of behavior" as follows: there are universal primary behavior determinants, such as organic states, which are relatively the same in all individuals; these include alimentation, sex and rest for which the excitants are changes in the block; also there are uniform negative states such as fear and anger; then there are particular behavior determinants including attitudes and interests and inhibitions which are determined by special stimuli (*J. Gen. Psych.,* July). The "ha-ha-ha" vocalization of laughter represents a distinct picture of respiratory responses which, according to E. L. Lloyd, involves excess expiration due to the involvement of abdominal muscles; when the inspiratory muscles are electrically stimulated during laughter the response becomes inhibited; after laughter there is a period of apnea or quiescence of the respiratory muscles (*ibid*). After ether anesthetization of rats the course of recovery was recorded by A. C. Cornsweet who found that there was a progressive appearance of reflexes starting with the head region, next with the trunk, then with the forelimbs, and finally with the hindlimbs; general equilibration was the last function to regain a normal state (*J. Comp. Psych.,* Oct.). "Unilaterally induced fatigue:" when a certain movement in one arm is fatigued, such as pronation, there is immediately afterward a brief period of fatigue shown in the corresponding muscles of the other arm; this indicates that some fatigue factor occurs in the common spinal motor center: R. M. Collier (*J. Exper. Psych.,* July).

Conflict.—In experiments on motor conflict, C. I. Hovland and R. R. Sears offer additional types to those described by K. Lewin who made the following distinctions: simultaneous choice between two desirable objects, simultaneous avoidance of two undesirable situations, and seeking something desirable in an undesirable situation; Hovland and Sears demonstrated the results of making a choice between desirable alternatives in which punishment followed the rejection of either; elements of the above types of conflict; attempts were made to both desirable alternatives, but when punishment followed there was an attempt to "leave the field" and abandon the whole situation (*ibid,* Nov.). Muscular tension may be effectively employed if a person will find out what optimal anticipatory "tension-load" (*i.e.* general tenseness) should be assumed before undertaking tasks of different degrees of complexity; the greater the complexity the greater the optimal tension load (*Amer. J. Psych.,* Jan.). Stammering has been recognized as consisting largely of psychological symptoms caused by various conflicts and tensions arising from a person's experiences; the total "organismic" pattern of a person's temperament in relation to particular events must be taken into account; this viewpoint becomes important in the treatment of stammering; for example, methods of producing general relaxation and relieving strains of anxiety and embarrassment must be employed: L. P. Thorps (*J. Gen. Psych.*, July).

Nerves.—F. Tilney and H. A. Riley have brought out a large third edition of their text on *The Form and Function of the Central Nervous System* (Hoeber); many clinical studies enhance the utility of this handbook for the student and the practitioner. The acidity of the saliva, known as the hydrogen-ion concentration, is a measure of nervousness and differential response to various types of stimulation; those factors which induce increase of salivary flow decrease the acidity; decreased salivary flow, as in emotional states, increases acidity: A. C. Winson and B. Korchin (*J. Exper. Psych.*, July).

Relaxation.—Tests of the therapeutic value of "relaxation" were made by J. Hadley on college students; it was found that students who were undergoing interviews on personality problems responded favorably to a program of relaxation exercises, but while superficial tensions were reduced it was necessary to submit to a further relaxation training for deeper-lying conflicts when they were discovered (*J. Gen. Psych.*, July). Another one of E. Jacobson's "relaxation" books is called *You Can Sleep Well* (M'Graw-Hill).

ANIMALS

Instincts.—As a case for instinctive needs, D. M. Levy has demonstrated that chickens, reared in cages with an elevated floor constructed of wire-netting which prevented normal food pecking from the ground, would peck at each other's feathers to an excessive degree; this symptom was explained as an attempt to satisfy an innate need for food-getting; the suggestion was made that analogous surrogates in behavior arise when the human infant is deprived of an adequate amount of suckling behavior (*ibid*, Apr.). As a case against instinct, C. L. Jukes demonstrated that 400 chicks showed no preference in their choice between two sources of food of identical flavor, but with one food containing essential vitamins which were lacking in the other food (*J. Comp. Psych.*, Aug.). Also opposing the concept of instinct comes a study by Z. Y. Kuo of the companionship between cats and rats which have been raised together; ordinarily cats only kill rats when the cats, as young animals, have seen rats killed by their mothers (*ibid*, Feb.).

Habits.—J. Ball reports that a monkey, found living with a cat, drank milk by lapping it up like a cat instead of by sucking as hundreds of monkeys have been observed to do exclusively; evidently the monkey had learned by imitation (*J. Genet. Psych.*, June). Young turtles, after hatching, use for the most part vision in migrating to water, so observes G. K. Noble and A. M. Breslau; the turtles are attracted by the greater illumination of the water; they will go toward relatively dryer areas if they happen to be brighter (*J. Comp. Psych.*, Feb.). Hunger motivation in rats was shown by Y. Tsang to have a local origin in the stomach contractions for when the stomach was removed the animal showed little motivation to obtain food even though the bodily need induced by fasting existed (*ibid*, Aug.). A comprehensive book on animal psychology is found in B. F. Skinner's *The Behavior of Organisms* (Appleton-Century).

ABNORMAL

Books.—A new journal, *Psychiatry*, deals with the biology and pathology of interpersonal relations. M. Harrington has developed a non-psychoanalytic concept of *A Biological Approach to the Problem of Abnormal Behavior* (Science Press). The stress of present-day living and its possible results is discussed in the book, *Modern Society and Mental Disease* (Farrar & Rhinehart): authors, C. Landis and J. D. Page. Suggestive illustrations are found in Alexander Adler's *Guiding Human Misfits* (Macmillan). C. M. Anderson deals with the art of understanding in her *Emotional Hygiene* (Lippincott); she indicates several personal traits which wear out the patience of one's friends on occasions when a person does not realize that they are imposing on others. M. Sherman's book on *Mental Conflicts and Personality* (Longmans, Green) furnishes many new case histories and new application of therapeutic measures. E. L. Vincent has written a *Mental Hygiene for Nurses* (Saunders).

Chemical Treatment.—There is increasing evidence that insanity is largely due to disturbances of metabolism in the body; L. Alexander and J. M. Looney find that in either atrophy or edema of the brain the chemical components vary in amount independently to the volume of nerve tissue; this has been demonstrated in the case of the water content and the hydrogen-ion concentration (*Arch. Neurol. & Psychiat.,* Nov.). R. A. McFarland and H. Goldstein discuss the value of various theories concerning the biochemistry factors in dementia praecox; they discount the specific influence of any particular endocrine gland; they point out the noticeable disturbance of carbohydrate and lipoid metabolism; these disturbances do not become adjusted as readily as they do in normal persons, and they fluctuate from one extreme to the other during long periods of time (*Amer. J. Psychiat.,* Nov.). G. E. Hall discusses the benefits to schizophrenic patients resulting from the opposing processes of insulin-shock associated with hypoglycaemia and the metrazol-shock associated with post-convulsive hyperglycaemia; the similar effects of these opposite processes is still unexplained; there may be some obscure chemical influence arising from the autonomic nervous system as is supported by the fact that melancholia is reduced by treatments of ergotamine tartrate, a drug which reduces the action of the sympathetic system (*ibid*).

EDUCATIONAL

Cultural.—G. O'Connell severely criticizes the current trend in education the label for which he uses as the title of his book, *Naturalism in American Education* (Benziger); he ascribes the ills of modern youth to the new ideals whose origin he credits to John Dewey. "Cultural knowledge" can be measured in terms of a scale of questions about music, art, drama, according to A. R. Lauer who finds American and English stock showing a superior education in these fields (*J. Educ. Psych.,* Apr.). What vocational attitudes are found in high school students? H. C. Carter and M. C. Jones obtain the picture of definite yet unreliable interests regarding vocational choices; high ratings on interest scales indicate a consistency of attitude in some cases; the consistent cases show more aggressiveness and masculinity according to tests of these traits than do the indecisive students (*ibid*). A book primarily for teachers is offered by H. V. Race on *The Psychology of Learning through Experience* (Ginn). In a study of the effects of school acceleration upon the personality and social adjustment of high school and university students, made by T. L. Engle, the conclusion is drawn that students who are less well adjusted themselves report the belief that school acceleration is a handicap; but the better adjusted report a favorable opinion on acceleration; the accelerated students, whether well or poorly adjusted, are not as active socially as the non-accelerated ones (*J. Educ. Psych.,* Oct.). Very useful for counselors of secondary schools and colleges is the book, *Student Guidance Techniques* (McGraw-Hill); a review of tests, interview methods and outside aids is reported.

Intelligence.—In C. H. Town's monograph *The Intelligence Quotient* (Psych. Clinic, Buffalo), a survey is made of the amount of change in the I.Q. that can be found for any individual cases as a result of varying circumstances; the conclusion is given that the range of shift is very small relatively, and therefore the I.Q. represents a fairly constant value throughout an individual's life. In forming a concept of intelligence, D. G. Ryan says that the most promising program of research is toward the determination of significant groups or clusters of traits rather than of individual traits: he favors the following group factors: (1) number facility, (2) word feeling, (3) visualization or imagery, (4) memory, as a general ability, (5) perceptual speed of discrimination, (6) induction (abstraction), and (7) verbal reasoning (*J. Educ. Psych.,* Sept.). Drawings indicate intelligence, according to J. Miller, who devised a standardized scale of model drawings to be copied; correlations of plus .87 were obtained in comparisons with several other mental tests (*ibid,* May). The Stanford-Binet vocabulary test was given to adults by D. Shakow and G. Goldman who found that the scores remained at the same level up through the years of the seventies and then declined thereafter (*ibid,* Apr.).

Reading.—Good readers show a uniform distribution of time, pauses and shifts in eye-movements; a greater general bodily ease is also possessed by the good readers (*Amer. J. Psych.,* July). Both intelligent and unintelligent children exhibit reading difficulties which are due to lack of individual attention in large classrooms, lack of interest and lack of emotional "readiness" by the pupils; also there are the visual defects, one of which has been studied recently by W. F. Dearborn and I. J. Anderson; this defect is called "aniseikonia" which is a difference in the size and shape of objects as seen by each of the two eyes, so that conflicting images are experienced and the reader must make many eye-fixations and regressions in following a line of print (*J. Exper. Psych.,* Dec.).

CHILDREN

A. Gesell and H. Thompson have summarized their child studies in *The Psychology of Early Growth* (Macmillan); the authors express the belief that they have now developed an adequate system of behavior notation so that anyone can make standardized recordings of an infant's development; some authors are not yet convinced of the general utility of this notation system. N. L. Munn offers a book, *Psychological Development* (Houghton, Mifflin), which traces organic development from the simplest biological examples to the ultimate problems of education and psychiatry. N. Wallenstein has investigated the *Character and Personality of Children from Broken Homes* (Teachers College, Columbia Univ.). W. Dennis has watched two cases of infant development under conditions of restricted practice and a minimum of social stimulation; for the first seven months the two infants were given normal care, but no responsiveness or directed stimulation on the part of the adults was practiced, nor were the infants given any motor practice, but were kept in a supine position except for bathing; after seven months normal activities and social stimulation were introduced; at the end of a year the two children were practically normal in all behavior and responsiveness (*J. Genet. Psych.,* Sept.). E. T. Raney found that identical twins possessed the opposite patterns of eye and hand dominance; they seemed to exhibit behavior which was the mirror image of the other's behavior (*J. Exper. Psych.,* Sept.).

SOCIAL

Books.—D. Katz and R. L. Schanck have produced an important volume on *Social Psychology* (Wiley); the exposition broadly covers the range of social problems from biology (the contributions of E. B. Holt are noteworthy here) to the wider implications of sociology and political theory; the recent advances in the technique of dealing with propaganda and public opinion are discussed. *Public Opinion and the Individual* (Harper) by G. Murphy and R. Likert describes a five-year program of investigation on the shifting attitudes of college students regarding social questions. In the book, *Our Causes of Crime* (Univ. Pennsylvania Press), A. E. Fink takes up various biological approaches to the problem; he has made an independent re-investigation of such factors as heredity. W. C. Uhl and F. F. Powers have prepared one of the new types of secondary school books on the social survey plan; it is called *Personal and Social Adjustment* (Macmillan). F. Boas has a new treatment of *The Mind of Primitive Man* (Macmillan).

Social Relationships.—L. M. Terman put into a single book his recent work on the *Psychological Factors in Marital Happiness* (McGraw-Hill); the book reports the survey of 1,133 married couples and 109 divorced couples; there are 400 conditions accounted for which may aid or hinder marital success in the fields of personality, home background and sex adjustment. Child adjustment cases affected by the parents' marital relationships are described by D. W. Baruch who believes that the child does not need to witness overt conflicts in order to be aware of their occurrence (*J. Genet. Psych.,* Sept.). Parents who protect their children diminish their mental stamina as revealed by intelligence tests, teachers' ratings and school problems: J. J. B. Morgan and M. H. Banker (*ibid*). A "social hierarchy" among mice is described by J. Ulrich; the relationship is based on fighting behavior and the degree of dominance or submission exhibited; sometimes the "fighting order" in the group will last for several months; this hierarchy exists almost entirely among males (*J. Comp. Psych.,* Apr.). A caution in guidance is stressed by R. G. Anderson who has found in her work of "counseling adult women" that objective measures of personality problems, such as the Bernreuter and Allport tests, are not representative of a person unless supported by evidence obtained in direct interview; for example, a person rated as very sociable on a test may confess to great effort in being successfully sociable; such individuals must be counselled to spare themselves from over-exertion in order to accomplish that which they can do with effort (*J. Appl. Psych.,* Oct.).

PERSONALITY

Guides.—In a comprehensive book, *Psychological Foundations of Personality* (McGraw-Hill), L. P. Thorpe has attempted to produce "a guide for students and teachers," leading them through the basic concepts of biological inheritance and constitutional differences which cause individual types of persons; programs are offered for the development and direction of improvement in personality. W. Healy's wide experience with problems of juvenile delinquency, mental hygiene and psychiatry is employed in his book, *Personality, Its Formation and Action* (Norton); the growth of personality at different periods of life is treated; in adulthood, Healy points out that many business men have encountered failure or breakdown through too much success, that in times of industrial booms men are promoted to positions that strain their capacities and cause them "to encounter something in themselves which led to a breakdown." An extensive study of childrens' personalities, made by K. E. Roberts and R. S. Ball, included measures of ascendance-submission, physical and personal attractiveness, compliance, independence to adult affection, respect of property, responsiveness to authority, sociability with other children, and tendency to face reality; most of these items showed little relationship to each other and did not form clusters; parents rated the children higher than did teachers on ascendance-submission and lower than teachers on response to authority and independence to adult affection; the children fluctuated greatly in response to these tests over a period of years (*J. Genet. Psych.,* Mar.). The personalities of juvenile offenders vary according to the seriousness of their delinquencies; the serious offenders show more anxiety and the less serious show greater admiration for blameworthy qualities in other persons (*ibid,* June).

Constitutional Factors.—The "relationship of the thyroid with intelligence and personality" is described by J. Dispensa as a far-reaching one, though not very constant; to some extent lowered function of the thyroid is accompanied by lowered intelligence and a lack of self-restraint, while those with increased thyroid activity are more intelligent, less neurotic, less pessimistic and less sensitive to worry; these data contradict the results of many other studies in some respects (*J. Psych.,* July). E. F. Wells contradicts Kretchmer's theory of constitutional types; Wells finds that manic-depressive patients are shorter and broader than the schizophrenic patients among the well pronounced cases in a state hospital (*Amer. J. Psych.*, Jan.).

APPLIED

Auto Driving.—H. A. Toops and S. E. Haven have written a popular book on traffic problems with many novel suggestions for improvements: *Psychology and the Motorist* (R. G. Adams). S. M. Newhall describes connections between "blind spots and traffic accidents;" inconspicuous obstacles to vision, such as the feather on a hat, eyelashes, spectacle rims and such items which obscure a part of vision at times when the added obscuring of the field due to the blind spot seriously interferes with safety (*Personn. J.*, Jan.-Mar.). An adaptation of Gestalt psychologie's "field analysis" to auto driving has been offered by J. J. Gibson and L. E. Crooks who propose topological measurements on the apparent field of safe progress which is assumed or conceived by the driver at any moment (*Amer. J. Psych.*, July).

Improvement.—In his book, *Psychology of Speech* (F. S. Crofts), J. Eisenson has discussed important factors of one's personal background which influence speech habits; he also discusses reactions of various audiences and rules of vocal technique. A sound treatment, yet readable by the general public, on the subject of drinking is given in E. A. Strecker's and F. T. Chambers' book, *Alcohol, One Man's Meat* (Macmillan); the problem of the reeducation of the habitual drinker is helpfully described; it is concluded that many people should reconcile themselves to complete abstinence.

Industry.—Psychological factors of fatigue, incentive and skill are discussed in T. N. Whitehead's book, *The Industrial Worker* (Harvard Univ. Press); special investigations from the Western Electric Company are reported. The "psychology of cooperation" is based on three levels of thought, according to C. S. Slocombe; these levels include the "worker level" which thinks in terms of periodic rating of production, the "foreman level" which thinks in terms of the labor performed by the men, and the "supervisor level" which thinks in terms of further development of productivity of both men and foremen (*Personn. J.*, Apr.). One of the leading books of the year in the applied field is E. K. Strong's *Psychological Aspects of Business* (M'Graw-Hill); selling problems and employment problems are treated. A short book on applied problems is offered by M. R. Harrower under the title *The Psychologist at Work* (Harper).

PHILOSOPHY

By Chester Townsend Ruddick

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GENERAL

Philosophic enterprise still tends strongly in the direction of those disciplines which may be conceived as more readily applicable to practical and actual problems. Social and political philosophy particularly seem to occupy a great many of the philosophers and to achieve considerable space in the journals. This one tendency, which has been noticable for two or three years, and probably has its origins in the increased public interest in social and political problems, is all that has been definitely remarkable in 1938.

There are, of course, other fluctuations of interest apparently indicated by a survey of the year's publications. But there is no definite evidence of other important trends. Philosophy of Science continues to be an active field, though a decreasing volume of published contributions suggests the possible beginning of a recession of interest there. Aesthetics is perhaps more popular than usual. Proponents and opponents of Logical Positivism are actively defending their positions, but neither side has made any spectacular advance.

In general, it seems that special kinds of knowledge, special sciences or would-be sciences, are turning to Philosophy for critical analysis of their fundamental structures; or perhaps philosophers are taking these problems upon themselves.

TEXTS AND TRANSLATIONS

New text-book material is particularly scarce. One item of importance is B. A. G. Fuller's *History of Philosophy* (Holt), which is available in a single volume, or in two separately, the first covering the Ancient and Medieval Periods, the second the Modern. The author has covered the whole field in quite comprehensive fashion, giving a full account of the views of each thinker and attempting "to make out the best case for him I could." Written in an informal, far from pedantic style, this book claims to be neither critical nor original in its interpretations, and is clearly intended to make the beginning student's study of the history as painless as possible.

Another book adapted to classroom use is C. A. Ellwood's *Story of Social Philosophy* (Prentice-Hall), also published with the title, *History of Social Philosophy*. It perhaps represents better the development of social science, and less well its philosophic aspects. There is also a revised edition of F. W. Coker's *Readings in Political Philosophy* (Macmillan), containing selections from 25 writers from Plato to Bentham.

Source material is made available to students in two additions to the Appleton-Century Philosophy Series. These are *Kant's Fundamental Principles of the Metaphysics of Ethics,* translated and introduced by O. Manthey-Zorn, and *St. Augustine-Concerning the Teacher* (*De Magistro*) *and On the Immortality of the Soul* (*De Immortalitate Animae*), translated with a preface by G. G. Leckie.

Students of aesthetics will appreciate a collection of Platonic writings bearing on that subject: *Plato: Phaedrus, Ion, Gorgias, and Symposium, with passages from the Republic and Laws,* translated with an Introduction by L. Cooper (Oxford).

Advanced students and scholars will be interested in the following contributions: *Aristotle: Organon* (two vol., Loeb Library, Harvard Univ.); *Ockham. Studies and Selections,* by S. C. Totnay (Open Court); *Thomas of Erfurt's On the Modes of Signifying. A Specultative Grammar,* translated by C. G. Wallis (The Classics of the St. Johns Program, Edwards Brothers); and *Pomponatius: Tractatus de Immortalitate Animae,* a first translation into English by W. H. Hay (Haverford College).

HISTORY OF PHILOSOPHY

The philosophies of the past are dealt with in a comparatively small number of books and papers; for the most part these are concerned each with a single philospher, and some of them are limited to a single phase of a philosopher's system. None of them attempts to interpret the history from a comprehensive point of view.

P. H. Frye's *Plato* (University Studies of the Univ. of Nebraska) is an appreciation of that great thinker as a human being. M. G. Walker, in "The One and Many in Plato's Parmenides" (*Philosophical Review,* XLVII, 5) emphasizes the importance of the 'Many' in that fundamental but rather obscure doctrine.

The Gateway to the Middle Ages, by E. S. Duckett (Macmillan) is a discussion of the literature of the sixth century that may be of some interest to philosophers. Medievalists may also be interested in two books issued late in 1938, additions to the Monograph Series of St. Michael's Medieval Studies. They are *The Medieval Conception of Law,* by G. Kirby, and *The Aesthetics of Augustine,* by E. Chapman (Sheed and Ward).

Two books serve as introductions to, and commentaries on, the works of Spinoza and Kant: A. Shanks, *Introduction to Spinoza's Ethic* (Macmillan); P. A. Schilpp, *Kant's Pre-Critical Ethics* (Northwestern Univ.). Differing interpretations of the same philosophy are given by R. W. Holmes in *The Idealism of Giovanni Gentile* (Macmillan) and P. Romanelli, in *Gentile: the Philosophy of Giovanni Gentile* (New York: S. F. Vanni, Inc.). Both agree, however, in finding it wise to treat Gentile independently of Croce.

Among the articles in the journals are to be noticed the following: E. A. deLacy, "Meaning and Methodology in Hellenistic Philosophy" (*Phil. Rev.* XLVII, 4); K. K. Berry, "Matter in the 'De Ente'" (*New Scholasticism* XII, 2); R. J. McCall, "St. Thomas on Ontological Truth" (*New School.* XII, 1); S. Russo, "The Concept of Matter in Leibniz" (*Phil. Rev.* XLVII, 3). Berry's article considers certain implications following from the difference between logical and metaphysical uses of the term 'matter' in this fundamental essay of Aquinas. Russo examines the various uses of the concept 'matter' in the pholosophy of Leibniz, and draws the conclusion that "there underlies them a fundamental dualism, and a systematic pluralism."

A. G. A. Balz, in "Descartes—After Three Centuries" (*Journal of Philosophy* XXXV, 7) discusses recent Cartesian literature. W. W. Hess presents "A Note on the Individualism of Descartes" (*ibid*).

METAPHYSICS AND EPISTEMOLOGY

The traditionally central topics seem to have called forth a large number of brief papers and very few books. Among the latter are to be included another posthumous volume of the writings of G. H. Mead, entitled *Philosophy of the Act* (Univ. of Chicago), and another volume in the program of G. Santayana, *The Realm of Truth: Book Third of Realms of Being* (Scribners). This last merely summarizes, and adds nothing to the familiar doctrines of the author.

Another book expounds and criticizes the works of one of the most discussed of contemporary philosophers: *The Philosophy of A. N. Whitehead,* by D. L. Miller and G. Gentry (Burgess). The last named writer also criticizes Mr. Whitehead's doctrines in an article, "Prehension as Explanatory Principle" (*J. Phil.* XXXV, 19).

The various 'isms' are represented in different ways by the following papers: H. Ruja's "The New Rationalism" (*J. Phil.* XXXV, 11), which is concerned with the decline of the 'new realism' as this writer considers it to be exhibited in recent works; W. D. Oliver's "The Logic of Perspective Realism" (*J. Phil.* XXXV, 8), which insists upon certain advantages of this over other realisms; and J. S. Moore's "The Significance of the Egocentric Situation" (*J. Phil.* XXXV, 6), which insists upon the advantage of idealism over realism in virtue of its more comprehensive view of reality.

An interesting paper by W. Savery, "The Synoptic Theory of Truth" (*Phil. Rev.* XLVII, 4), distinguishes five types of theory and attempts to bring them together into one.

Theories of meaning and allied problems are discussed by A. C. Benjamin, in "The Operational Theory of Meaning" (*Phil. Rev.* XLVI, 6), where an attempt is made to clarify that theory and point out its advantages, and by G. W. Cunningham in "Meaning, Reference, Significance" (*Phil. Rev.* XLVII, 2), a paper delivered as the Presidential Address to the Eastern Division of the American Philosophical Association at its 1937 meeting.

In an article entitled "Is There Not a Clear Solution of the Knowledge Problem II?" (*J. Phil.* XXXV, 21), D. S. Miller attempts to develop "the logic of the private mind." Two articles by P. Hughes—"Involvement and Implication" (*Phil. Rev.* XLVII, 3) and "The Technique of Philosophic Observation" (*J. Phil.* XXXV, 11) distinguish between inferences of two sorts and find that observational technique is such that it "requires that we develop a logic of involvement to balance our logic of implication."

A point of view which receives expression only occasionally yet always seems to deserve consideration is represented in "Metaphysics as a Science," by F. Anderson (*J. Phil.* XXXV, 3). This article discusses, on the basis of an analysis of history, the possibility of a metaphysics which is not a system, pretends to discover no absolute truth, and is humble enough to expect its difficulties to be resolved in a broader view. Another point of view seldom expressed is that of Y. H. Krikorian, who, in "An Empirical Definition of Consciousness" (*J. Phil.* XXXV, 6), takes the stand that "the experimental procedure is applicable to the facts of consciousness."

Other papers of interest are R. W. Sellars' "An Analytical Approach to the Mind-Body Problem" (*Phil. Rev.* XLVII, 5), R. Scannell's "Being and Becoming" (*New Schol.* XII, 3), H. W. Stuart's "Knowledge and Self-consciousness" (*Phil. Rev.* XLVI, 6), and S. C. Pepper's "A Convergence Theory of Similarity" (*Phil. Rev.* XLVI, 6).

J. M. Sommerville, in "Ontological Problems of Contemporary Dialectical Materialism" (*J. Phil.* XXXV, 9), finds that dialectical materialism "possesses an ontology" and attempts to exhibit it in certain of its manifestations.

LOGICAL POSITIVISM

It is not always easy to decide what works should properly be treated under this heading. H. Reichenbach's *Experience and Prediction* (Univ. of Chicago) is essentially an independent treatise in epistemology, being an application of the probability theory of that author's earlier work, *Wahrscheinlichkeitslehre,* to epistemological problems. Its arguments find probability to be the best to be hoped for in knowledge, and enough of probability to be hoped for to make a theory of knowledge possible; they are opposed in some respects to the theses of positivism.

Representing positivism as a school of thought there are the first two of the 20 monographs to appear under the general title *Foundations of the Unity of Science* (Univ. of Chicago). These two are *Encyclopedia and Unified Science* by O. Neurath, and *Foundations of the Theory of Signs* by C. W. Morris. Three other titles were planned for the late fall of 1938: *Logic and Mathematics,* by R. Carnap; *General Linguistics,* by L. Bloomfield; and *Procedures of Empirical Science,* by V. F. Lenzen.

The Fourth International Congress for the Unity of Science met at Girton College, Cambridge, England, July 14–19, 1938. The general topic for discussion was "Scientific Language." Among the participants from this country were V. F. Lenzen: "Experience and Convention in Physical Theory," D. C. Williams: "The Realistic Interpretation of Scientific Sentences," and O. Helmer: "Language with Expressions of Infinite Length."

Points relevant to the basic tenets of logical positivism have been discussed in a number of papers. W. Moore, in "Structure in Sentence and in Fact" (*Philosophy of Science* V, 1), questions certain contentions of Wittgenstein. "On Semantic Problems," by A. Hofstadter (*J. Phil.* XXXV, 9), is a discussion of problems of truth and meaning that involve a relation between language and subject-matter. W. H. Werkmeister, in "The Meaning of 'Meaning' Re-examined" (*Phil. Rev.* XLVII, 3), arrives, on the basis of an "analysis of the problem of meaning in its entirety, and without anticipatory commitment to any specific point of view," at a conception of meaning that avoids a confusion of meaning and verifiability which allegedly characterises logical positvism.

R. B. Brandt's article "On the Possibility of Reference to Inferred Entities" (*J. Phil.* XXXV, 15), reviews some of the changes in recent positivistic doctrine in order to introduce a suggestion that the difficulties of these doctrines indicate a possibility not sufficiently exploited. L. Abraham, in "Acquaintance, Description, and Empiricism" (*J. Phil.* XXXV, 2), argues for a principle of syntactic reducibility for the interpretation of the doctrine of the reducibility of description to acquaintance, as opposed to a "postulate of phenomenalism" which, he finds, must lead to solipsism.

PHILOSOPHY OF SCIENCE

A popular, or perhaps semi-popular, work in this field is *Evolution of Physics, the growth of ideas from early concepts to relativity and quanta,* by A. Einstein and L. Infield (Simon and Schuster). "Physicists and Fairies," by A. F. Bentley (*Phil. of Sci.* V, 2) is a rather informal discussion of recent writers on the philosophy of physics. This same science receives the attention of R. Eiten, in "A Rational Basis for Mathematical Physics" (*Thought* XIII, 50). "The Scientific Method and its Extension to Systems of Many Degrees of Freedom," by C. H. Prescott, Jr. (*Phil. of Sci.* V. 3) contains a symbolic formulation and treatment of its problem.

Causation and indeterminism, lively topics in the last few years, provide subjects for three papers. F. S. C. Northrop, in "Causality in Field Physics in its Bearing upon Biological Causation" (*Phil. of Sci.* V, 2), finds that field physics applies to human beings as electromagnetic systems. B. Waters, in "Positivistic and Activistic Theories of Causation" (*J. Phil.* XXXV, 4), discusses some of the literature on both sides of the question. R. H. Dotterer's "Indeterminisms" (*Phil. of Sci.* V, 1) treats of the different sorts of indeterminism to be taken into account.

"Operational Analysis" by P. W. Bridgman (*Phil. of Sci.* V, 2) discusses the technique which its author's well-known theory requires. "The Role of Language in Logic and Science" (*J. Phil.* XXXV, 17), by J. R. Kantor, outlines a doctrine of "operational linguistics" and suggests some of its consequences. W. M. Urban discusses "Symbolism in Science and Philosophy" (*Phil. of Sci.* V. 3).

LOGIC

A general work in Logic is the latest formulation of J. Dewey: *Logic. The Theory of Inquiry* (Holt). Other writings are various in nature.

E. Nagel's "Some Theses in the Philosophy of Logic" (*Phil. of Sci.* V, 1) consists of rather general remarks, the main tenor of which is that Logic must be divorced from Ontology.

Among the papers concerned primarily with Symbolic Logic are the following: W. V. Quine, "Completeness of the Propositional Calculus" (*J. of Symbolic Logic* III, 1); L. Chwistek and W. Hetper, "New Foundations of Formal Metamathematics" (*J. Sym. Log.* III, 1); C. W. Chuchman, "On Finite and Infinite Modal Systems" (*J. Sym. Log.* III, 2); O. Frink, "New Algebras of Logic" (*Am. Math. Mo.* XLV, pp. 210 ff.).

Two papers have to do with probability. "The Concept of Probability" by C. E. Bures (*Phil. of Sci.* V, 1) stresses the importance of the frequency theory. H. Reichenbach's article "On Probability and Induction" (*Phil. of Sci.* V, 1) supports the theories presented in his book, *Wahrscheinlichkeitslehre,* against certain criticisms.

SOCIAL AND POLITICAL PHILOSOPHY

Perhaps the most interesting of the recent writings in this field are those which concern themselves with the methods and foundations of political and social science. H. S. Fries, in "Method in Social Philosophy" (*J. of Social Phil.* III, 4), makes a plea for the abandonment of so-called "scientific sociology" and proposes to let social philosophy discover its own tests of truth in the actual development of a concrete social program. On the other hand G. A. Lundberg would retain in sociology the same meaning for law and in general the same methods as have been fruitful in the other sciences, being convinced that they would work there if certain outmoded postulates should be rejected: "The Concept of Law in the Social Sciences" (*Phil. of Sci.* V, 2).

R. K. Merton insists, in "Science and the Social Order" (*Phil. of Sci.* V. 3), that any acceptable social order must derive its authority from science, and from no other source.

A. G. A. Balz, discussing "The Challenge of Metaphysics to Social Science" (*J. Soc. Phil.* III, 2), urges the grounding of social science on a recognition of the unity and order of nature. Equating "medievalism" with dogmatism, M. Ten Hoor condemns an apparent tendency on the part of philosophy to become the handmaiden of politics in another "dark ages": "Medievalism in Contemporary Political Thought" (*J. Soc. Phil.* III, 4).

Knowledge and Society: A Philosophical Approach to Modern Civilization (Century Phil. Series, Appleton-Century) is a cooperative volume by G. P. Adams, W. R. Dennes, J. Loewenberg, D. S. Mackay, P. Marhenke, S. C. Pepper, and E. W. Strong. P. W. Bridgman, in *The Intelligent Individual and Society* (Macmillan), applies his doctrine of "operationalism" to social science. S. DePloige discusses *Conflict between Ethics and Sociology* (Herder).

A suggestion that all is not new under the political sun is conveyed by B. E. Lippincott's *Victorian Critics of Democracy: Carlyle, Ruskin, Arnold, Stephen, Maine, Leckie* (Univ. of Minnesota). W. Thomas, in *A Democratic Philosophy* (New York: Correlated Enterprises), effects a synthesis of Dewey, Marx and Sankara (a classical Hindu philosopher). R. McKeon presents "The Development of the Concept of Property in Political Philosophy: A Study of the Background of the Constitution" (*J. Phil.* XXXV, 9).

Two works of historical significance are *The Political Philosophy of Dante Aligheri* (Catholic Univ. of America), by J. Rolbiecki, and a translation, by S. A. Solovay and J. H. Mueller, under the editorship of G. E. G. Catlin, of *The Rules of Sociological Method,* by E. Durkheim (Univ. of Chicago).

PHILOSOPHY OF LAW

The year finds enough philosophic discussion of the problems of law to warrant a separate heading. A number of such discussions is to be found in *Law. A Century of Progress. 1835–1935,* edited by A. Reppy (New York Univ.) Among the philosophic contributions are those of M. R. Cohen, H. Kelsen, A. Kocourek and W. E. Hocking.

The views of one of the most discussed of recent writers on jurisprudence are represented in I. Husik's study of "The Legal Philosophy of Hans Kelsen" (*J. Soc. Phil.* III, 4). H. Kelsen has an article on "Platonic Justice" (*Ethics* XLVIII, 3).

The first volume of the Philosophical Studies of the American Catholic Philosophical Association is *The Philosophy of Law of James Wilson,* by W. F. Obering (Am. Cath. Phil. Ass'n).

ETHICS

Two general works on Ethics appeared during 1938. J. R. Reid's *A Theory of Value* (Scribners) propounds a relativistic doctrine. *Towards an Objective Ethics,* by G. R. Geiger (Antioch Pr.), attempts to provide objectivity by way of "social context."

Two other books have more special topics. M. Silver, in *The Ethics of Judaism* (Bloch), is concerned primarily with the conception of duty. *Ethics. From the Standpoint of Scholastic Philosophy,* by J. E. Ross (Devin-Adair), is a revision of an earlier work entitled *Christian Ethics.*

M. G. Walker's article "Perry and Hartmann: Antithetical or Complementary" (*Ethics* XLIX, 1) finds the theories of the two men much alike except in their foundations, and prefers to consider them as complementary. R. E. Fitch, in "The Ethics of Caprice" (*J. Phil.* XXXV, 18), suggests that the implications of recent forms of moral relativism are further-reaching than their proponents have realized. The "fallacy of misplaced concreteness" as it appears in ethical theory is the subject of "Negativity and Ethicism in Ethics" by C. B. Garnett, Jr. (*J. Phil.* XXXV, 10). Another article of interest is M. E. Clarke's "Cognition and Affection in the Experience of Values" (*J. Phil.* XXXV, 1).

AESTHETICS

Aesthetic Quality. A Contextualist Theory of Beauty by S. C. Pepper

(Scribner's) presents a theory which identifies the field of aesthetic with that of quality, in the light of the author's own particular brand of pragmatism. *A Bibliography of Psychological and Experimental Aesthetics* has been compiled by A. R. Chandler and E. Barnhart (Univ. of California).

Articles in aesthetics approach the subject from various points of view. T. H. Greene in "Beauty and the Cognitive Significance of Art" (*J. Phil.* XXXV, 14) assigns equal truth to art and science. C. J. Ducasse, discussing "The Esthetic Object" (*J. Phil.* XXXV, 12), finds it to be an object in an epistemological rather than in an ontological sense.

I. Edman's "Critique of Criticism" (*J. Phil.* XXXV, 12) defines criticism as a "reflective analysis of the meaning which a work of art embodies and—communicates as pleasurable perception." In "The Relation between Esthetics and Art-Criticism" (*J. Phil.* XXXV, 11), K. Gilbert attempts to differentiate the two in order that each may best serve the other.

"Plato, Art, and Mr. Maritain" by J. Tate (*New Schol.* XII, 2) is an attempt to show how the Platonic teachings on art and beauty may be useful in the construction of a scholastic aesthetic.

A very interesting paper, which might be considered to belong as much to Logic as to Aesthetics, is "The Meaning of Comedy" by J. Feibleman (*J. Phil.* XXXV, 16). "Comedy," it finds, "is an intellectual affair, and deals chiefly with logic. Tragedy is an emotional affair, and deals chiefly with value."

RELIGION

Among the more or less philosophical discussions of religion are to be noted the following: R. Niebuhr, *Beyond Tragedy: Essays in the Christian Interpretation of History* (Scribners); E. S. Brightman, *The Future of Chrisitanity* (Abingdon); A. C. Knudson, *The Validity of Religious Experience* (Abingdon); W. Jaeger, "Greeks and Jews: The First Greek Records of Jewish Religion" (*J. of Religion* XVIII, 2); P. A. Bertocci, "An Empirical Critique of the Moral Argument for God" (*J. of Rel.* XVIII, 3).

Mention might also be made of M. J. Adler's *St. Thomas and the Gentiles* (Marquette Univ.), in which Aquinas is set up against some current problems.

MISCELLANEOUS

There are a number of books and articles not easy to classify. Among them are two series of lectures, one by R. B. Perry, *In the Spirit of William James* (Yale Univ.), the other by I. Edman, *Four Ways of Philosophy* (Holt).

M. Glickman, in "Relativism and Philosophic Methods" (*Phil. Rev.* XLVI, 6), presents an analysis of methods and a plea for perspective: "Many an apparent incompatability would vanish if philosophers would but practice seriously the relativism they preach." In "The Poetic Use of Language" (*J. Phil.* XXXV, 3), D. Walsh draws the general conclusion that what is said and how it is said cannot be separated. She concludes also that the language of philosophical discourse is intentionally suggestive rather than precise, in order that meanings may be correctly communicated.

M. Ten Hoor attempts to put in their places the amateur philosophers from other fields: "The Philistines over Philosophy" (*J. Phil.* XXXV, 20). H. H. Dubs discusses "Recent Chinese Philosophy" (*J. Phil.* XXXV, 13).

BIBLIOGRAPHY

The annual *Bibliography of Philosophy* which had been published for some years by the *Journal of Philosophy* has been discontinued. The need for it has been obviated by the appearance of an *International Bibliography of Philosophy*, sponsored by the Institut International de Collaboration philosophique, to be published semi-annually in Paris (Librairie J. Vrin, 6 Place de la Sorbonne). The American representative is M. H. Mandelbaum, of Swarthmore College, Swarthmore, Pa.

MEETINGS

The Eastern Division of the American Philosophical Association held its 37th annual meeting at Princeton University, Dec. 28, 29, and 30, 1937. The program included sections on Logic, Aesthetics, and Causality, and a joint session with the American Catholic Philosophical Association for a discussion of the mind-body problem. The 14th annual meeting of the Pacific Division was held at Scripps and Pomona Colleges, Claremont, Calif., Dec. 28, 29, 30, 1937, with a varied program.

The Southwestern Philosophical Conference, meeting at Dallas, Tex., Dec. 30, 31, 1937, was devoted to symposia on "Epistemology" and "Problems of Teaching Philosophy." The 33rd annual meeting of the Southern Society for Philosophy and Psychology was held at the University of Tennessee, Knoxville, Tenn., on April 15 and 16, 1938. The Association for Symbolic Logic met with the American Mathematical Society at Indianapolis, Ind., Dec. 29, 1937.

PERIODICAL PUBLICATIONS

American Anthropologist
American Anthropological Association, Menasha, Wis.
American Journal of Physical Anthropology
36th. Street and Woodland Ave., Philadelphia.
American Journal of Psychiatry
2 East 103d. Street, New York City.
American Journal of Psychology
Cornell University, Ithaca, N.Y.
American Journal of Sociology
5750 Ellis Ave., Chicago.
American Political Science Review
305 Harris Hall, Northwestern University, Evanston, Ill.
International Journal of Ethics
5750 Ellis Ave., Chicago.
Journal of Abnormal and Social Psychology
American Psychological Association, Princeton, N.J.
Journal of Comparative Psychology
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Educational Psychology
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Educational Sociology
32 Washington Place, New York City.
Journal of Experimental Psychology
American Psychological Association, Princeton, N.J.
Journal of General Psychology
Clark University Press, Worcester, Mass.
Journal of Philosophy
515 West 116th. Street, New York City.
Journal of Social Philosophy
P.O. Box 50, Hamilton Grange Station, New York City.
Journal of Social Psychology
Clark University Press, Worcester, Mass.
Mental Hygiene
50 West 50th. Street, New York City.
Philosophical Review
114 Fifth Ave., New York City.
Psychoanalytic Review
3617 Tenth Street, N.W., Washington, D.C.
Psychological Review
American Psychological Association, Princeton, N.J.
Social Research
66 West 12th. Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN ANTHROPOLOGICAL SOCIETY, INC., 70 Fifth Avenue, New York City.

American Genetic Assn., 308 Victor Bldg., Washington, D.C.

American Philosophical Society, 104 S. 5th Street, Philadelphia, Pa.

American Political Science Assn., 305 Harris Hall, Northwestern University, Evanston, Ill.

American Psychiatric Assn., 2 East 103rd St., New York City.

American Psychological Assn., Univ. of Minnesota, Minneapolis, Minn.

American Psychopathological Assn., 520 Commonwealth Ave., Boston, Mass.

American Society for Psychical Research, 40 East 34th St., New York City.

American Sociological Society, University of Pittsburgh, Pittsburgh, Pa.

National Committee for Mental Hygiene, 50 West 50th St., New York City.

National Institute of Social Sciences, 271 Madison Ave., New York City.

Psychological Corporation, 522 Fifth Ave., New York City.

PART SEVEN

THE HUMANITIES

DIVISION XXV

LITERATURE AND LANGUAGE

FICTION

BY PETER MONRO JACK

CRITIC AND LECTURER

GENERAL

As the year began so it ended with novels of previous years still in popular demand. The newspaper best-seller lists continue to print Margaret Mitchell's *Gone With The Wind,* Kenneth Robert's *Northwest Passage,* and A. J. Cronin's *The Citadel.* Miss Mitchell's Civil War novel, now in a cheaper edition, will soon sell its 2,000,000th copy. A Gallup survey for 1938 indicates that, for women, *Gone With The Wind* beats the Bible in popularity, that for men it ranks next. In this survey, *Anthony Adverse* and *The Good Earth* are still very much read, respectively in third and sixth place. Dr. Gallup points out the influence of the movies in keeping these books before the public.

Historical and romantic fiction is still the popular reading. The most widely read of the new books—*The Yearling, Rebecca,* and *. . . and Tell of Time*—have nothing to do with the international tension. They are an escape from present realism. On the other hand there was a good sale for Malraux's *Man's Hope,* a novel about the Spanish war, indicating a decided sympathy for the Loyalist forces. It was generally felt, too, by the critics that the noblest book of the year was Thomas Mann's *Joseph in Egypt,* and with it was praised his *The Coming Victory of Democracy.* The most generally condemned novel of the year was Sinclair Lewis's *The Prodigal Parents.* It was compared with Hemingway's unhappy effort the year before in *To Have and Have Not.* A curious sign of the times was the withdrawal by the publishers (Simon & Schuster) of Jerome Weidman's successful novel, *What's in it for Me?* along with his earlier *I Can Get it for You Wholesale* because they depicted the Jews unfavorably.

In September died Thomas Wolfe, author of *Look Homeward, Angel,* and *Of Time and the River,* the most promising of the younger writers and a great loss to literature. Zona Gale, author of the prize winning *Miss Lulu Bett,* died in December. The Pulitzer Prize was awarded to John P. Marquard's *The Late George Apley* (1937). Pearl Buck, author of *The Good Earth,* was awarded the Nobel Prize, the second American novelist to be so honored. Ben Lucien Burman received the Southern Authors Award for "the most distinguished book by a Southerner about the South" for his *Blow For a Landing.* Scribner's published in December a handsome edition in 12 volumes of Ellen Glasgow's novels, called the Virginia Edition. The *Publisher's Weekly* indicates that, though there was an increase in books published during the year, there was a decline in fiction.

THE AMERICAN PAST

Generally compared with, and something of a rival to, *Gone With the Wind,* was *. . . and Tell of Time* by Laura Krey (Houghton Mifflin), a panoramic tale of the Civil War centering chiefly in Texas. Dealing with the fate of the land rather than with the fate of character, it was reviewed as being more thoughtful as well as more concerned with the present than Miss Mitchell's novel. *Action at Aquila* by Hervey Allen (Farrar & Rinehart) is a novel of the Civil War from word-of-mouth reminiscences by veterans, Union and Confederate. *The Unvanquished* by William Faulkner (Random House) is another story of the Sartoris family in Civil War days and Reconstruction. *The Fathers* by Allen Tate (Putnam) is the first novel by an important Southern poet and critic. It is a first-person narrative of the early period of the Civil War in Virginia and is considered the best analysis of the conflict of character and environment. *Blackberry Winter* by Evelyn Hanna (Dutton) tells of a typical Georgia family during the Civil War. *The Handsome Road* by Gwen Bristow (Crowell) is a carefully detailed novel of Louisiana plantation life during the Civil War.

Three Harbours by F. van Wyck Mason (Lippincott) is a story of the Revolution (1774–75) with an unusually wide canvas; the three harbors are Norfolk, Boston, and Bermuda. The book went directly into the best-selling lists. *Trumpets at Dawn* by Cyril Harris (Scribner's), dealing with the revolutionary campaigns of New York and the Middle States (1775–83), is better as history than as romance. *Renown* by Frank O. Hough (Carrick & Evans), a biographical portrait of Benedict Arnold, is an explanation, not a vindication. *The General's Lady* by Esther Forbes (Harcourt, Brace) is a story set in New England during the Revolution though not precisely an historical novel.

All This, and Heaven Too by Rachel Field (Macmillan) was one of the successes of the season. It is the story of Rachel Field's great-aunt, Henriette Desportes, beginning in 1841 and covering France, England and America. It concerns a governess's position, a murder trial, the life of a minister's wife in a small town and in New York society, and it is brilliantly told. *Dynasty of Death* by Taylor Caldwell (Scribner's) is the story (1837–1910) of an English family migrating to a Pennsylvania town, creating a monopoly in munitions and living through various family feuds. *American Years* by Harold Sinclair (Doubleday, Doran) is a second novel. The scene is Illinois, 1830–1856, and this genuine, unpretentious and native story tells of the progress of a typical town from barber shop to court house: the newspaper, library, railroad, Western Union, etc. *May Flavin* by Myron Brinig (Farrar & Rinehart), though chiefly a character novel, gives a picture of Irish life in the eighties in Chicago and the New York Bowery.

AMERICAN REGIONALISM

Marjorie Kinnan Rawlings's novel *The Yearling* (Scribner's), the greatest success of the year, may be classed here, though it might have other headings. Its locale is the backwoods of Florida, and the story is the chronicle of one year in a 12-year-old boy's life. With little plot but a rich background, simple homely events, and a brilliant use of Florida dialect, this makes a national novel out of purely local color. *What People Said* by W. L. White (Viking), the son of William Allen White, might be regarded as a picture of a Middle West city like Emporia, Kan. In the manner of Sinclair Lewis, it dissects the life of the town with first hand material and a merciless scrutiny. The plight of the immigrant is shown in *Man's Courage* by Joseph Vogel (Knopf), the story of a Polish farmer's fight for land against political chicanery, is an arresting piece of writing reminiscent of Sherwood Anderson and Erskine Caldwell.

The Passion Never Dies by Sophus Keith Winther (Macmillan) is a good source material novel of the pioneering Danish and their gradual Americanization. It is the third volume of a modern saga set in Nebraska. *Free Land* by Rose Wilder Lane (Longmans, Green) is a picture of the difficulties of homesteaders who move into Dakota. *A Prayer for Tomorrow* by J. Hyatt Downing (Putnam) is also a novel of Dakota homesteaders, here of their exodus 40 years ago from the buffalo grass that has been turned into a dust bowl. *Heaven Came So Near* by Hubert Skidmore (Doubleday, Doran), a second novel by the winner of the Avery Hopwood prize, concerns the poverty-stricken inhabitants of the Blue Ridge Highlands, a grim and simple novel, much improved in narrative skill.

More humorously, *Blow for a Landing* by Ben Lucien Burnam (Houghton Mifflin) tells of showboat romance on the Mississippi and was awarded the Southern Authors Award (judges, Burton Rascoe, Joseph Wood Krutch, Blanche Colton Williams, Herschel Brickell). More journalistically, *Mingled Yarn* by Willie Snow Ethridge (Macmillan) portrays poor whites and negroes in Georgia, 1919–1930. More satirically, *These Bars of Flesh* by T. S. Stribling (Doubleday, Doran) caricatures with indolent southern good humor a great metropolitan university.

THE AMERICAN PRESENT

The Prodigal Parents by Sinclair Lewis (Doubleday, Doran) is a novel of the revolt of parents against the behavior of their children, one of whom is a parasite, the other a communist sympathizer. The children were so maliciously caricatured and the parents so sentimentalized that critics felt there was no conflict in the novel, and it made little impression. *The Proud Heart* by Pearl Buck (Reynal & Hitchcock) was the first time that the newest American Nobel Prize winner turned to an American scene, a contemporary study of an unusually talented person in a small college town. The novel was not liked as well as the books on China. *Bow to Wood and Stone* by Josephine Lawrence (Little, Brown) is a problem novel on the relation of parents and children and the necessity of sacrifice. It is another in her series of "mathematically perfect" novels.

No Star Is Lost by James T. Farrell (Vanguard) is the second novel in a new series by this young writer from Chicago dealing with his experience of that city's Irish adolescents, honest uncompromising realism, perhaps more autobiographical than the first ("Studs Lonigan") series. *What's in it for Me?* by Jerome Weidman (Simon & Schuster), a hard-boiled tale of the Jewish garment-worker trade in New York, its main character a conscienceless double-crosser, was withdrawn from publication, as already noted, to prevent further accusations against the Jews. *The Fliver King* by Upton Sinclair (Rodale Press), a pamphlet novel, subtitled "A Story of Ford-America," is in the libertarian tradition. *The Great American Novel* by Clyde Brion Davis (Farrar & Rinehart) is a second novel by the Buffalo newspaper man who was hailed for his *The Anointed.* It is the chronicle of a newspaper man who hoped to write the great American novel, who produces all his notes in preparation for this, and who dies after his adventures in Buffalo, Cleveland, Kansas City, San Francisco, still a copy-reader for his newspapers. Mr. Davis has been called "the most interesting American novelist discovered during the past two years." *Young Man With a Horn* by Dorothy Baker (Houghton Mifflin) was thought by many critics to be the outstanding "find" of the year. It is the story of a swing musician, a trumpeter, who died before he was 30 and gave his life to swing. It is factually and informatively written. *American Quest* by Bradford Smith (Bobbs, Merrill) is an ambitious picture of all America through the wanderings of a man who gave up a secure position to see what America is like. *Brooks Too Broad for Leaping* by Flannery Lewis (Macmillan) is a second novel about Virginia City, Nev., this time through the eyes of a young boy. *Big Show* by Charles Cooke (Harpers) is the best story of circus life in America. *To Remember* *at Midnight* by Michael Foster (Morrow) is a story of theatrical troupers, not as important as his novel *American Dream.*

Hope of Heaven by John O'Hara (Harcourt, Brace) is another hard-boiled story of sex and violence, less interesting than his others. *The Daughter* by Bessie Breuer (Simon & Schuster), who has been called the female O'Hara, has a Florida setting, and is also concerned with sex and violence. *The Happy Island* by Dawn Powell (Farrar & Rinehart) is a witty, sophisticated novel of "café society" in New York. *Concert Pitch* by Elliot Paul (Random House) is a similar characterization of "dead-end" society in Paris, the chief character a musician. *Monday Night* by Kay Boyle (Harcourt, Brace) is also a story of Paris, a crime story by an American expatriate.

CABELL, WHARTON, ROBERTS

The King Was in His Counting House by Branch Cabell (Farrar & Rinehart) is a return to the earlier Poictesme manner, a novel of Italy under the Medici. *The Buccaneers* by Edith Wharton (Appleton-Century) was Mrs. Wharton's last novel, all but finished, with an outline for the end, but not rewritten. The story takes place in 1875 and is an ironic tale of four daughters "buccaneering" their way into society. *Black is My Truelove's Hair* by Elizabeth Madox Roberts (Viking) is a tragi-comedy, simply told, with a mixture of poetry and realism. C. A. Millspaugh's *Men Are Not Stars* has something of the same quality, a poetic, sensitive story of an Irish bohemian family in Chicago (Doubleday, Doran).

FIRST NOVELS

The best received of the year's first novels, *Boundary Against Night* by Edmund Gilligan (Farrar & Rinehart), is a story of Boston lower depths, slums, factories, wharves, etc., the characters being Irish Catholics, written with great virtuosity. *F.O.B. Detroit* by Wessel Smitter (Harper) was also highly praised. It is obviously a story of the Ford factory, told without bitterness, of two types of workers: the one who wants to be boss, the other who wants to be bossed. *The World Is Mine* by William Blake (Simon & Schuster) had a mixed but interested press. It is a story of a man who made millions, is spiced with discussions of capitalism, communism, religion, etc., and travels through England, France, Italy, Spain, America with much adventure. *Fox in the Cloak* by Harry Lee (Macmillan) is a realistic autobiographical novel of the artist breaking through American life. *Rachell's Children* by Harriet Hassell (Harper) is a promising novel, the tragic story of a possessive mother, by the 1937 winner of *Story Magazine's* short-story contest. Philip Barry, the playwright, published his first novel in *War in Heaven* (Coward, McCann), a novel that became a successful play in *Here Come The Clowns.* Aline Bernstein, theatrical designer, wrote *The Journey Down* (Knopf), the story of the love between a theatrical designer and a young novelist. Aline Bernstein is the "A. B." for whom Thomas Wolfe's *Look Homeward, Angel* was dedicated. Other first novels of prominence were *The Best Butter* by Elinor Rice (Morrow), a caustic satire on New York intellectuals, and *Roots in the Sky* (Macmillan), the story of a warm-hearted Jewish family in California.

SHORT STORIES

Ernest Hemingway was rated the best short story writer in America with the publication in one volume of his *The Fifth Column* (a new play) and *The First Forty-Nine Stories* (Scribner's), a reprint of the short stories in *In Our Time, Men Without Women, Winner Take Nothing,* with four new stories. They deal mostly with gangsters, killers, soldiers, war correspondents. One of the new stories is a brilliant piece telegraphed from Madrid. Not far behind came *The Long Valley* by John Steinbeck (Viking), which includes the prize-winning "The Red Pony." Very far behind came Erskine Caldwell's *Southways* (Viking), generally rated as his weakest volume. *The Way Things Are* by Albert Maltz (International) is a good example of America's only Communist writer of distinction. *Uncle Tom's Children* by Richard Wright (Harper) is a collection of stories about Mississippi negroes by a prize-winning story-teller. *Love, Here is my Hat* (Modern Age Books) and *The Trouble With Tigers* (Harcourt Brace) by William Saroyan are further selections of this clever, exhibitionistic and remarkable writer. *Baker's Dozen* by Kathleen Norris (Doubleday, Doran) is a selection from her magazine work. *My Sister Eileen* by Ruth McKenny (Harcourt, Brace) contains light, humorous tales, mostly from *The New Yorker*. *Emily* by Sally Benson (Covici, Friede) is written in gentle satire, published first in *The New Yorker, Scribner's,* etc.

SHORT STORY COLLECTIONS

O. Henry Memorial Prize Stories, edited by Harry Hansen (Doubleday, Doran), has Albert Maltz first for "The Happiest Man on Earth," Richard Wright second for "Fire and Cloud," and John Steinbeck third for "The Promise" (part of "The Red Pony."). Included in this collection are Saroyan, S. V. Benet, E. Caldwell. *The Best British Short Stories,* edited by Edward J. O'Brien (Houghton Mifflin), put below the American collection as of "lower vitality," includes H. E. Bates and Eric Knight. *The Flying Yorkshireman,* etc. is a collection of *novellas* (Harper), edited with an introduction by Whit Burnett, editor with Martha Foley of *Story Magazine;* includes Eric Knight, Helen Hull, Albert Maltz, Rachell Maddux, I. J. Kepstein. The first two are the best. Edward J. O'Brien has collected *The Best Short Stories of 1938* (Houghton Mifflin), including E. M. Roberts, William March, John Steinbeck, Morley Callaghan, Dorothy McCleary, and Meridel LeSueur's "The Girl," the last the best. *The Post Stories* of 1937 (Little, Brown) are mostly competent and facile, true to form. *The Best of Runyon* (Stokes), edited and illustrated by two Englishmen, shows the unexpected popularity of Runyon in England where he is supposed to represent accurately the American sporting and gangster world.

From England and abroad come the following books of short stories: *A Purse of Coppers* by Sean O'Faolean (Viking), excellent stories of provincial Ireland; *The Cleft Stick* by Walter Greenwood (Stokes), of Manchester slums and poverty, relieved by love, by the author of *Love on the Dole; Pavements at Anderby* (Macmillan), by the late Winifred Holtby, tales and sketches, ironic and humorous, often written in the cause of women to which Miss Holtby was devoted. *The River Breaks Up* translated from the Yiddish of I. J. Singer, the author of *The Brothers Ashkenazi,* realistic stories of Russian Jewish life along the Vistula (Knopf).

HISTORICAL NOVELS

Apart from the Revolution and Civil War novels there have been a number of American and English distinctive historical novels. *A Day of Battle* by Vincent Shean (Doubleday, Doran) is an account of a day in the battle of Fontenoy in 1745, with perhaps some indication of a modern parallel. *An Infamous Army* by Georgette Heyer (Doubleday, Doran) is the story of the battle of Waterloo, centering chiefly around Wellington. *Turn Back the River* by W. G. Hardy (Dodd, Mead), a novel about Rome of the first century B.C. by a teacher in the Department of Classics, University of Alberta.

Of the English historical and biographical novels, of which there were many, perhaps the best was *Garland of Bays* by Gwyn Jones (Macmillan), a good story of Robert Greene, the playwright, and an excellent reconstruction of his Elizabethan days. Almost as good was *Crippled Splendour* by Evan John (Dutton), the romantic and tragic story of James I of Scotland. In *Count Belisarius* Robert Graves went back to the reign of Justinian and his queen Theodora to show the last stand of the Romans against the onslaught of the Goths (Random House). *Commander of the Mists* by D. L. Murray (Knopf) made a commendable tale of Prince Charles and the Jacobite rebellion of 1745 in Scotland. Clemence Dane wrote a romantic allegory of the Regency period in *The Moon is Feminine* (Doubleday, Doran). Patrick Carleton in *Under The Hog* (Dutton) wrote an accurate novel of Richard III in 15th century England.

BRITISH NOVELS

The two most popular novels from England have been, aside from *The Citadel,* Daphne du Maurier's *Rebecca,* a suspensive and breathtaking melodrama, and Howard Spring's *My Son, My Son* (Viking), a novel which is part chronicle (1880–1925), part problem, character (the son of a fixed Victorian losing himself in the uncertainties of today) and thoroughly interesting. *Scoop* (Little, Brown) by Evelyn Waugh, a witty extravaganza of his experiences as a war correspondent in the Italo-Abyssinian war, had some but not enough success. *House of All Nations* by Christina Stead (Simon & Schuster), the story of the world-wide operations of a Paris banking-house, was much debated for its mixture of brilliance and perversity. *Apropos of Dolores* by H. G. Wells (Scribner's) is the portrait of a woman in his older style. *Starting Point* by C. Day Lewis (Harper) is the second novel of the Oxford poet, friend of W. H. Auden, Stephen Spender, etc., and interesting as showing the tendency of the younger group to sympathize with communism. The *Wild Goose Chase* (Knopf) by Rex Warner, another of the same group, attempts to write of his beliefs in the form of allegory. In a fresh and original style he also portrays the modern search for political reality but he turns from realism to the allegorical approach of Bunyan's *Pilgrim's Progress*. *Spella Ho* by H. E. Bates (Little, Brown) was popular for its love story. *National Provincial* by Lettice Cooper (Farrar & Rinehart) is an up-to-date novel of English social and political history, from the Italo-Abyssinian war on. *Testament* by R. C. Hutchinson (Farrar & Rinehart) is the story of the Russian Revolution seen by an Englishman. *Sleep in Peace* by Phyllis Bentley (Macmillan) is another of her novels dealing with Yorkshire, the rise and fall of the textile industry. *Ship of the Line* by C. S. Forester (Little, Brown) is a continuation of the Captain Hornblower tales, set in the Napoleonic era.

FOREIGN NOVELS

Obviously the finest novel from abroad or at home is *Joseph in Egypt* by Thomas Mann (Knopf) translated from the German, the third part in his Biblical story concerning Joseph's encounter with Potiphar's wife and his growing social awareness. *Hearken Unto The Voice* by Franz Werfel (Viking), translated from the German, is a long epic narrative, with Jeremiah as hero, of Jerusalem, Egypt and Chaldea of the 6th and 7th centuries, B.C., the same theme as the play of his produced by the Theatre Guild. *Wolf Among Wolves* by Hans Fallada (Putnam), translated from the German, goes back to the 1923 inflation days. *The Crowning of a King* by Arnold Zweig (Viking) is the fourth in the series of war narratives begun with *Sergeant Grischa,* a novel of the Eastern Front, Poland and Lithuania, on the idea during the war of putting a German prince on the Lithuanian throne.

Man's Hope by Andre Malraux (Random House), translated from the French, achieved some popularity instantly as the best revolutionary novel of the government front in Spain and generally sympathetic to the Loyalist characters. *Death of a World* by Jules Romains (Knopf), translated from the French, is Vol. VII in *Men of Good Will,* concerned with the year 1912–1914. *Death on the Installment Plan* by Louis-Ferdinand Celine (Little, Brown), translated from the French, is a sadistic study in defeatism. *The Survivors* by René Behaine (Houghton Mifflin), translated from the French, the first of a series showing aristocracy and peasantry in France equally in decay has been highly praised in an introduction by Ford Madox Ford. *The Pasquier Chronicles* by George Duhamel (Holt), from the French, is a cycle, like Proust's and Romains', of personal, social, economic forces in France during the past fifty years. *Tides of Mont St. Michel* by Roger Vercel (Random House), from the French, stylistically a distinguished story of the famous island-abbey. *Pity for Women* by Henry de Montherlant (Knopf), from the French, a brilliantly-told love story by one of the foremost present-day novelists.

Prelude to Love by Johan Foldes (Farrar & Rinehart), from the Hungarian, a charming novel in diary form of a young girl's love. *Fatherland, Farewell* by Gosta Larsson (Harcourt, Brace), from the Scandinavian, of working people and the industrial unrest in 1910, ending with immigration to America. *Meek Heritage* by F. E. Sillanpaa (Knopf), a story by Finland's leading novelist of a peasant character. *The Blue Dragoons* by Curt Berg (Putnam) is the story of Swedish garrison life 40 years ago, and the Swedish winner in the All Nations Prize contest. *Ships in The Sky* and *The Night and the Dream* by Gunnar Gunnersson (Bobbs, Merrill) is autobiographical in form, by an Icelander who has a large following in Scandinavia and Germany. *Images in A Mirror* by Sigrid Undset (Knopf), from the Norwegian, a short novel of a happy marriage. *Memory of Youth* by Vilhelm Moberg (Simon & Schuster) is the first of a trilogy to be translated from the Swedish by a writer in high repute, of Swedish peasant youth. *I See A Wondrous Land* by Gudmundur Kamban (Putnam), a reconstruction of the Icelandic sagas. *The Spectre* by Maxim Gorki (Appleton-Century), the concluding volume of the tetralogy, *Forty Years,* 1905–1917, not finally revised before the author's death, and with notes for concluding chapter.

POETRY

By Peter Monro Jack

Critic and Lecturer

COLLECTIONS AND SELECTIONS

E. E. Cummings.—Probably the year's most notable event in poetry was the publication of Cummings's *Collected Poems,* from 1923 onwards (Harcourt, Brace), accompanied by a gramophone record with Cummings's readings of some of his poems. This skilful, original and intrepid poet has kept his style through all changes of politics and poetry, and his integrity is as admirable as his talent.

Robinson Jeffers.—To many the California poet Jeffers is the major poet of America and his *Selected Poetry of Robinson Jeffers* (Random House) is accounted by them the best poetry of the year. The selection includes about half of his work, selected by himself and his wife; and there is an introduction explaining his philosophy: a profound distrust of variable human motives, a strong belief in elementary nature.

William Carlos Williams.—*The Complete Collected Poems,* 1906–1938, (New Editions) is a definitive edition replacing the *Collected Poems* of 1928. Mainly short poems of exact imagism by this New Jersey doctor of medicine, they have had more influence on younger poets than general recognition.

Laura Riding.—From nine books Miss Riding (Mrs. Robert Graves) has made her own collection, with some new poems, and an eloquent preface in behalf of poetry. Her poetry is difficult, serious, important, still not yet well-known. She has been called by W. H. Auden "the only living philosophical poet."

Genevieve Taggard. — *Collected Poems, 1928-1938* (Harper) show Miss Taggard's two interests: metaphysical and social-political verse.

Merrill Moore.—This fertile writer has published the first 1,000 of his 50,000 sonnets, in *M: One Thousand Autobiographical Sonnets* (Harcourt, Brace).

Melville Cane.—*Poems, New and Selected* (Harcourt, Brace) includes much from two previous volumes. There are new poems, many in light mood.

AMERICAN ANTHOLOGIES

Early America.—*Spiritual Folk-songs of Early America,* collected and edited by George Pullen Jackson (N.Y.: J. J. Augustin), is a volume of religious ballads, folk hymns, revival spiritual songs, with words and music, previously uncollected.

Bucolic.—*Voices from the Fields* is edited by Russell Lord (Houghton, Mifflin) and comprises verse written by farmers, their wives and children, all of it from *Country Home Magazine* which Mr. Lord edits. The verses are simple, homely, and interesting.

Naval.—*American Naval Songs and Ballads,* edited by Robert W. Neeser (Yale U.P.), comprises free and ready chronicles in verse of naval events with many reproductions of the original broadsides.

Mining.—*Minstrels of the Mine Patch,* edited by George Korson (U. of Penn.) includes topical songs and stories in verse of the anthracite industry, for the first time collected.

Southern.—*Folksongs from the Southern Highlands,* collected and edited by Mellinger Edward Henry (N.Y.: J. J. Augustin), has much new material, with versions of old Scots and English ballads, and "news-story" verse.

New England.—*Folksongs of Old New England,* edited by Eliose Hubbard Linscott (Macmillan), contains singing games, country dances, ballads, chanties, ditties, etc.

OTHER ANTHOLOGIES

A New Anthology of Modern Verse, edited by Selden Rodman (Random House), is a good conspectus of the most important verse, including Yeats, Eliot, Housman, Pound, MacLeish, Rukeyser, Masefield, Cummings, Crane, Auden, Spender, Prokosch, etc. There is a popular introduction and an interpretative arrangement.

The Best Poems of 1938.—This is Thomas Moult's annual selection from English and American periodicals (Harcourt, Brace).

The Oxford Book of American Literature, edited by William Rose Benét and Norman Pearson (Random House), contains also the best of American poetry.

The Oxford Book of Light Verse, edited by W. H. Auden (Oxford), is the most interesting and illuminating anthology of the year, with light but authentic verse from Chaucer to Vachel Lindsay, and many unusual ballads, nursery rhymes, epigrams, clerihews, limericks, and epistles.

Immortal Lyrics.—A shorter and more discriminating *Golden Treasury* has been compiled by Hudson Strode (Random House), from Raleigh to Housman.

Neglected Poems.—*In 51 Neglected Poems* Tom Boggs edits an anthology of poems from early anonymous examples to Melville and George MacDonald (Macmillan).

Lyrics in Brief.—A new collection by Boggs from longer poems or from ms., from 1300–1938 (Powgen Press).

NEW LYRICS

Prokosch.—*The Carnival* (Harper) is Frederic Prokosch's second book of poetry, and it shows this poet to be the most naturally graceful and imaginative of the young American writers. His theme is generally the value of individual experience in a world of increasing social and political standardization. Its viewpoint is cosmopolitan.

Rukeyser.—A former winner in the Yale Series of Younger Poets, Muriel Rukeyser has been known as a Left-winger. In her second book, *U.S.1,* she continues her social reporting in narrative, adding simpler, more subjective lyricism. (Covici, Friede).

Evans.—*The Bright North* by Abbie Huston Evans, contemplative poems by a New Englander, has been called "one of the finest collections of the year."

Eberhart.—*Reading the Spirit* by Richard Eberhart (Oxford) is the work of a young American with affiliations abroad, of uneven talent, but likely to become important since he has a style of his own.

Maas.—Mr. Maas's second volume, *Concerning the Young* (Farrar & Rinehart), is freer of the faults of immaturity evident in the first volume, less precious, and more conscious of a theme; it is to say that the courage of the young must replace the defeat of their elders.

Salt.—*Christopher Columbus* (Boston: Bruce Humphries) by a new writer, Sidney Salt, and with an introduction by W. C. Williams, is mainly a collection of clear and sharp imagistic lyrics, showing its further imaginative reach in the dramatic narrative of the sailing of Columbus.

Warner.—The English Oxford poet, Rex Warner, had his first book of poems published in America coincident with the publication of his critically successful novel, *The Wild Goose Chase.* The *Poems* (Knopf) come from a writer naturally pastoral who sees and writes about the menace of world war; the writer now, he says, is "in strict training for desperate war." He has an admirable talent for writing of the flight of birds.

Auslander.—Joseph Auslander's new volume is *Riders at the Gate* (Macmillan).

Wurdemann.—The former Pulitzer prize-winner writes a sonnet sequence in *Testament of Love* (Harper).

Holden.—Raymond Holden continues his lyrics of nature in *Natural History* (Holt).

Bacon.—Generally known as a writer of "light" verse, Leonard Bacon is more seriously satirical in *Bullinger Bound,* a heavy-handed satire on contemporary poetry (Harper).

Belitt.—A promising young writer is revealed in *The Five Fold Mesh* by Ben Belitt (Knopf).

Haley.—The latest winners of the Yale Series of Younger Poets are Margaret Haley for her nature lyrics in *The Gardener Mind* (Yale), and Joy Davidman for *Letters to a Comrade* (Yale).

Boyle.—The novelist and short-story writer, Kay Boyle, has written her first book of poems called *A Glad Day* (New Directions). There is not much difference between the poems and the short stories.

Fearing.—Kenneth Fearing's new proletarian verse is *Dead Reckoning* (Random House), the second book of a clever poet who writes of a world headed for catastrophe.

NARRATIVE VERSE

Narrative verse has not been popular nor especially good but it has been much written in many varieties of form, chiefly blank verse. *Lee in the Mountains* by Donald Davidson (Houghton, Mifflin), is a series of Civil War scenes in blank verse. *Westward Under Vega* (Covici, Friede), a novel in verse by Thomas Wood Stevens, concerns the voyage across America by a young married couple. *At Midnight on the 31st of March* (Houghton, Mifflin), a more unusual narrative about the survivors in the only small town left in the world, is by Josephine Young Case. *Valhalla and Other Poems,* by Robert Francis (Macmillan), is an advance in technique from his first book. *Saul, King of Israel* by Victor Starbuck (Univ. of North Carolina) is the famous Biblical story retold. Two hunting stories were *The Fox of Peapack and Other Poems* by E. B. White (Harper) and *The Horn: A Lay of the Grassington Foxhounds* by Patrick Chalmers (Scribner's). Padraic Colum, in *The Story of Lowry Maen* (Macmillan), went back to the traditional tales of the Irish kings for a simple story. Here may be added, since it is difficult to find a place for it, Archibald MacLeish's *Land of the Free* (Harcourt, Brace), an experimental form of "soundtrack," actually an interpretative libretto for a series of photographs by government agencies of the state of the American land. The photographer shows that "free land" no longer exists; the poet calls for freedom of opinion and action.

POETRY IN PLAYS

This form continues popular in England. Best examples are W. B. Yeats's symbolic *The Herne's Egg and Other Plays* (Macmillan), worked over into verse from earlier prose in the style of the Japanese Noh plays; Stephen Spender's *Trial of a Judge* (Random House), the dilemma of a liberal judge judging both Fascism and Communism and doomed by whatever judgment he makes; and T. S. Eliot's contemporary play, *The Family Reunion* (Harcourt, Brace). Two plays written in verse for radio have been successful. Both concern the possibility of war: Alfred Kreymborg's *The Planets* (Farrar & Rinehart), set to Holst's music of the same name, and Archibald MacLeish's *Air Raid* (Harcourt, Brace) which John Mason Brown said was better than any modern drama on Broadway.

TRANSLATION

Of the many translations interesting to, and likely to influence, contemporary poets, the following may be mentioned: *Anabasis* by St. J. Perse, translated by T. S. Eliot (Harcourt, Brace), a poem that already has made its mark on some important contemporary writers; the *Poetry of Rainer Maria Rilke,* translated, with the German text, by M. D. Herter Norton, (Norton), another important influence on our writers; *One Hundred Poems from the Palatine Anthology,* translated by Dudley Fitts (New Directions). Further interest in cultural influences is shown in the translation of *Greek Verse,* ed. Higham and Bowra (Oxford); *Verona Press Rhyme Sheets* (from the Greek and the Chinese, with decorations by di Chirico, Dufy, Maillol, etc.); Dante's *Purgatorio,* the Italian and English, translated by the English poet, Laurence Binyon (Macmillan).

LIGHT VERSE

The most popular book of verse of the year and the only one to become a best seller, was Ogden Nash's *I'm a Stranger Here Myself* (Little, Brown) in which Mr. Nash showed that his wit had stamina and good sense and was capable of development. There were also the first collection of light verse, *The Bulls of Spring,* by Jake Falstaff (Putnam) who died in 1936 and was a well-known contributor to magazines and newspapers; and Margaret Fishback's omnibus volume from her four books, called *One to a Customer* (Dutton).

HISTORY

By Paul H. Buck

Assistant Professor, Harvard University

GENERAL

Some of the problems which confront the present day historian are discussed with admirable clarity in Allan Nevins' *The Gateway to History* (Appleton-Century). Here the interested reader may find how much and what kind of history has been written, what obstacles and perplexities have confronted the historian, and how meaningful the best history has been to the living world.

COLONIAL PERIOD

The continued progress toward completion of C. M. Andrews's impressive synthesis, *The Colonial Period of American History* (Yale), was marked by the appearance of the fourth volume which deals with the commercial and colonial policy of England. Another well known scholar, T. J. Wertenbaker, presented the initial volume of a new survey of Colonial life, *The Founding of American Civilization: The Middle Colonies* (Scribner). C. Bridenbaugh, *Cities in the Wilderness* (Ronald), makes a major contribution by depicting on the broad canvas of social history the life, economy and institutions of Colonial towns. Meritorious monographs on various phases of Colonial history are: A. C. Bining, *Pennsylvania Iron Manufactures in the Eighteenth Century* (Pennsylvania Historical Commission); E. S. Griffith, *History of American City Government, The Colonial*

Period (Oxford); and J. C. Spruill, *Women's Life and Work in the Southern Colonies* (North Carolina). M. Bell's *Women of the Wilderness* (Dutton) is a semi-fictional study limited to early Massachusetts. H. C. Forman's *Jamestown and St. Mary's* (Johns Hopkins) is the story of two important early towns both of which have disappeared.

POLITICAL HISTORY

The history of the Democratic Party is narrated without great depth or originality by H. Agar in *Pursuit of Happiness* (Houghton, Mifflin). M. Josephson, *The Politicos* (Harcourt, Brace), gives a solidly documented party history of the post-Civil War era invigorated by a searching if unorthodox thesis. H. R. Frazer, *Democracy in the Making: The Jackson-Tyler Era* (Bobbs-Merrill), deals with bank politics in the Administrations indicated. L. Middleton, *Revolt, U. S. A.* (Stackpole), treats episodically of half-a-dozen unsuccessful insurrections. P. L. Rainwater, *Mississippi: Storm Center of Secession, 1856–1861,* (Baton Rouge: Otto Claitor); C. H. Wesley, *The Collapse of the Confederacy* (Associated Publishers); and A. J. Hanna, *Flight into Oblivion* (Johnson), discuss various aspects of the Confederacy. R. S. Henry, *The Story of Reconstruction* (Bobbs-Merrill), synthesizes in convenient form the better known phases of Reconstruction. L. M. Hacker, *American Problems of Today* (Crofts), gives an analysis, mainly economic, of the period since the World War.

CONSTITUTIONAL HISTORY

The Philadelphia meeting of the American Historical Association, December, 1937, devoted its entire program to papers discussing topics relating to the Constitution of the United States. The more significant of these papers are published in C. Read, editor, *The Constitution Reconsidered* (Columbia). B. F. Wright, Jr., *The Contract Clause of the Constitution* (Harvard), presents an historical study of prime importance.

DIPLOMATIC HISTORY

C. C. Tansill, *America Goes to War* (Little, Brown), adds an indispensable volume to the controversial subject of the entrance of the United States into the World War. The same author published *The United States and Santo Domingo, 1797–1873* (Johns Hopkins), an excellent monograph. J. T. Rippy, *America and the Strife of Europe* (Chicago), depicts the effects of European unrest on American history. D. Perkins, *The Monroe Doctrine, 1867–1907* (Johns Hopkins), presents the third volume in the author's standard history. Other books in diplomatic history are: A. M. Morrisey, *The American Defense of Neutral Rights, 1914–1917* (Harvard); W. G. Lyddon, *British War Missions to the United States, 1914–1918* (Oxford); D. A. Lockmiller, *Magoon in Cuba* (North Carolina), dealing with the intervention of 1906–1909; C. Lewis, *America's Stake in International Investments* (Brookings Institute), an analysis of our debtor-creditor relations in world affairs since 1783; L. M. Gelber, *The Rise of Anglo-American Friendship* (Oxford), covering the period of 1898 to 1906; and D. F. Fleming, *The United States and World Organization, 1920–1933* (Columbia).

SOCIAL HISTORY

Possibly the most valuable contribution during 1938 in the field of American history was the publication of volumes two and three of F. L. Mott's *A History of American Magazines* (Harvard), covering the years from 1850 to 1865 and from 1865 to 1885. Also significant for the rich values obtained by a broad social approach is R. A. Billington's *The Protestant Crusade, 1800–1860* (Macmillan), a study of the origins and development of anti-Catholicism. H. D. Farish, *The Circuit Rider Dismounts* (Dietz), breaks new ground in exhaustively narrating the social history of Southern Methodism in the post-Civil War era. R. Burlingame, *March of the Iron Men* (Scribner), gives an interestingly written social history of the American people in terms of inventions. S. M. Bessie, *Jazz Journalism* (Dutton), pioneers in the realm of tabloid newspapers.

Phases of the history of immigration are described in: A. B. Benson and N. Hedin, editors, *Swedes in America, 1638–1938* (Yale); M. Haiman, *Poles in New York in the 17th and 18th Centuries* (Polish Roman Catholic Union of America); M. J. O'Brien, *Pioneer Irish in New England* (Kenedy); C. C. Qualey, *Norwegian Settlement in the United States* (Norwegian-American Historical Association); C. Ward, *New Sweden on the Delaware* (Pennsylvania); and J. H. Wuorinen, *The Finns on the Delaware, 1638–1655* (Columbia).

The Indian received attention in: G. F. Brimlow, *The Bannock Indian War of 1878* (Caxton); F. C. Lockwood, *The Apache Indians* (Macmillan); J. W. Lydekker, *The Faithful Mohawks* (Macmillan); and M. L. Wardell, *A Political History of the Cherokee Nation, 1838–1907* (Oklahoma).

Miscellaneous themes in social history were studied in: G. J. Garraghan, *The Jesuits of the Middle United States* (American Press); L. L. Gobbel, *Church-State Relationship in Education in North Carolina Since 1776* (Duke); K. C. Hurd-Mead, *A History of Women in Medicine* (Haddom); W. Murrell, *A History of American Graphic Humor, 1865–1938* (Macmillan); J. T. Wheeler, *The Maryland Press, 1777–1790* (Maryland Historical Society); and B. I. Wiley, *Southern Negroes, 1861–1865* (Yale).

PHOTOGRAPHIC HISTORY

The camera has been used with increasing profit to recapture the past. Beautiful in itself and arranged with deep understanding is R. Taft's *Photography and the American Scene* (Macmillan), a social history of photography from 1839 to 1889. *Harper's Weekly* in the era of its greatness was distinguished for its drawings depicting the nation's life. Two hundred and fifty-six of these drawings, with an explanatory text, are presented in J. A. Kouwenhoven's *Adventures of America, 1857–1900* (Harpers). L. Beebe, *High Iron* (Appleton-Century), presents the story of railroad trains and engines told partly in pictures. A. C. Church, *Whale Ships and Whaling* (Norton), uses the camera to record the golden age of New Bedford.

ECONOMIC HISTORY

A. H. Cole's *Wholesale Commodity Prices in the United States, 1700–1861*, 2 vols. (Harvard) is a valuable reference work. The history of business in the United States is enriched by N. S. B. Gras, *The Massachusetts First National Bank of Boston, 1784–1934* (Harvard). E. G. Campbell's *The Reorganization of the American Railroad System, 1893–1900* (Columbia) is scholarly in analysis. O. Lewis, *The Big Four* (Knopf), gives an account of the organizers of the Southern Pacific Railroad. E. Hungerford's *Men and Iron; The History of the New York Central* (Crowell) is popular in tone. P. H. Giddens, *The Birth of the Oil Industry* (Macmillan), describes the origin and early development of the Western Pennsylvanian field. C. B. Glasscock, *Then Came Oil* (Bobbs-Merrill), tells of the discovery of oil in Oklahoma. J. C. Robert's *The Tobacco Kingdom: Plantation, Market and Factory in Virginia and North Carolina, 1800–1860* (Duke) is a competent monograph. C. Roberts' *The Middlesex Canal* (Harvard) is the history of a Massachusetts enterprise.

MARITIME AND MILITARY HISTORY

R. G. Albion's *Square Riggers on Schedule* (Princeton) is a chapter in the history of American shipping centering in New York City. F. C. Bowen, *America Sails the Seas* (McBride), presents a popular history of America on the high seas. Also popular in appeal and successful as a survey is F. Pratt's *The Navy, A History* (Doubleday, Doran). H. A. Texler's *The Confederate Ironclad "Virginia"* (Chicago) is a careful study of the ship which fought the *Monitor*.

Each of the following books has value in adding a footnote or a chapter to the history of our armed forces in war: H. E. Wildes, *Valley Forge* (Macmillan); DuB. Heyward and

H. R. Sass, *Fort Sumter, 1861–1865* (Farrar and Rinehart); and T. M Johnson and Fletcher Pratt, *The Lost Battalion* (Bobbs-Merrill).

WESTERN HISTORY

Of interest to the student of American History is E. E. Edwards' (compiler) *The Early Writings of Frederick Jackson Turner* (Wisconsin). Books of minor importance on western themes are: T. Bodley, *Our First Great West* (Morton); S. Vestal, *Revolt on the Border* (Houghton, Mifflin), an account of the Sante Fe trail in 1846; M. C. Jacobs, *Winning Oregon* (Caxton); LeR. R. Hafen and F. M. Young, *Fort Laramie and the Pageant of the West, 1834–1890* (Clark).

STATE, TERRITORIAL AND LOCAL HISTORIES

Few of the many state and local histories published in 1938 possessed merit. Among these might be mentioned: S. Acheson, *Thirty-five Thousand Days in Texas* (Macmillan), a history of the *Dallas News;* C. E. Bennett, *Many Mohawk Moons* (Gazette), a history of Schenectady; S. Burt, *Powder River* (Farrar and Rinehart), a history of a Wyoming valley; D. E. Crouse, *The Ohio Gateway* (Scribner), an account of the settling and development of the Northwest Territory; R. J. Ferguson, *Early Western Pennsylvania Politics* (Pittsburgh); A. Johnson, *Georgia as Colony and State, 1733–1937* (Atlanta: W. W. Brown); C. C. Phillips, *Through the Golden Gate, San Francisco 1769–1937* (Los Angeles: Sutton House); J. E. Reynolds, *In French Creek Valley* (Crawford County Historical Society), the early history of Northwestern Pennsylvania: J. S. Sickler, *The History of Salem County, New Jersey* (Salem: Sunbeam); R. F. Weld, *Brooklyn Village, 1816–1834* (Columbia); and F. W. Winwar, *Puritan City* (McBride), the history of Salem, Massachusetts.

C. L. Andrews, *The Story of Alaska* (Caxton), and R. S. Kuykendall, *The Hawaiian Kingdom, 1778–1854* (Univ. of Hawaii), deal with two of the territories of the United States.

CONTINENTAL EUROPE

The interest of American scholars in fields of history other than that of their native country remained vigorous. M. Beard's *A History of the Business Man* (Macmillan) is a pioneer survey of a seldom explored field. Works on antiquity are: R. J. Bonner and G. Smith, *The Administration of Justice from Homer to Aristotle,* vol. two (Chicago); L. M. Wilson, *The Clothing of the Ancient Romans* (Johns Hopkins); and H. J. Loane, *Industry and Commerce of the City of Rome, 50 B.C.—200 A.D.* (Johns Hopkins).

In the Medieval field there appeared: E. C. Moore, *The Story of Instruction* (Macmillan), a study of instruction from the founding of the Christian church through the Reformation; J. L. Cate and E. N. Anderson, editors, *Medieval and Historiographical Essays in Honor of James Westfall Thompson* (Chicago); G. A. Campbell, *The Knights Templars, Their Rise and Fall* (McBride); E. S. Duckett, *The Gateway to the Middle Ages* (Macmillan); K. S. Latourette, *One Thousand Years of Uncertainty,* vol. two in *The History of the Expansion of Christianity* (Harpers), covering the years from 500 to 1500; F. D. Kershner, *Those Gay Middle Ages* (Willett, Clark); N. Schachner, *The Medieval Universities* (Stokes); G. G. Coulton, *Inquisition and Liberty* (Macmillan); and F. Gavin. *Seven Centuries of the Problem of Church and State* (Princeton).

Books on Modern European history are: C. Anastoff, *The Tragic Peninsula* (St. Louis: Blackwell, Wielandy), a history of the Macedonian movement for independence; J. W. Blake, *European Beginnings in West Africa, 1454–1578* (Longmans); C. Brinton, *The Anatomy of Revolution* (Norton); G. Bruun, *Europe and the French Imperium, 1799–1814* (Harpers); R. A. Carrie, *Italy at the Paris Peace Conference* (Columbia); H. C. Deutsch, *The Genesis of Napoleonic Imperialism* (Harvard); P. H. Emden, *Money Powers of Europe in the 19th and 20th Centuries* (Appleton-Century); E. C. Helmreich, *The Diplomacy of the Balkan Wars, 1912–*

1913 (Harvard); J. I. Knudson, *A History of the League of Nations* (Atlanta: T. E. Smith); C. H. McIlwain, *Constitutionalism and the Changing World* (Macmillan); R. B. Merriman, *Six Contemporaneous Revolutions* (Oxford); D. K. Reading, *The Anglo-Russian Commercial Treaty of 1734* (Yale); J. F. Scott, *Twilight of the Kings* (Day); H. D. Sedgwick, *The House of Guise* (Bobbs-Merrill); and R. Pares, *Colonial Blockade and Neutral Rights, 1739–1763* (Oxford).

BRITISH EMPIRE

On England and the British Empire the following books were published: J. T. Adams, *Building the British Empire* (Scribner); R. M. Bourne, *Queen Anne's Navy in the West Indies* (Yale); J. W. Bready, *England: Before and After Wesley* (Harper); D. G. Creighton, *The Commercial Empire of the St. Lawrence, 1760–1850* (Yale); C. W. Eldon, *England's Subsidy Policy Toward the Continent During the Seven Years' War* (published by author); G. P. de T. Glazebrook, *A History of Transportation in Canada* (Yale); W. Haller, *The Rise of Puritanism, 1570–1643* (Columbia); J. L. Hammond, *Gladstone and the Irish Nation* (Longmans, Green); E. E. Hoon, *The Organization of the English Customs System* (Appleton-Century), covering the period from 1696 to 1796; L. H. Jenks, *The Migration of British Capital to 1875* (Knopf); W. K. Jordan, *The Development of Religious Toleration in England* (Harvard), vol. three covering the period from the convention of the Long Parliament to the Restoration; H. M. Neatby, *The Administration of Justice Under the Quebec Act* (Minnesota); Naomi Riches, *The Agricultural Revolution in Norfolk* (North Carolina); P. M. Sweezy, *Monopoly and Competition in the English Coal Trade, 1550–1850* (Harvard); and E. Wood, *English Theories of Central Banking Control, 1819–1858* (Harvard).

LATIN AMERICA

The following books deal with aspects of Latin American history: G. Ireland, *Boundaries, Possessions, and Conflicts in South America* (Harvard); J. V. Jacobsen, *Educational Foundations of the Jesuits in Sixteenth Century New Spain* (California); and C. L. R. James, *The Black Jacobins* (Deal), an account of Santo Domingo in the era of Toussaint L'Ouverture.

ASIA

Books published on Asia include: C. S. Gardner, *Chinese Traditional Historiography* (Harvard); W. M. McGovern, *The Early Empire of Central Asia* (North Carolina); and A. M. Young, *Imperial Japan, 1926–1936* (Morrow).

BIOGRAPHY

By Malcolm Oakman Young

Reference Librarian, Princeton University

GENERAL

In the *North American Review*, summer issue, is an article by Edgar Johnson, who, in 1937, wrote *One Mighty Torrent: the Drama of Biography*. This 16-page article is an excellent survey of the influences on and the tendencies of our biographers. "They . . . have demonstrated that the past is a living part of the present. Biography so conceived not only reveals the past as organically related to the present age; it reveals our own cultural orientation. . . . Evolution, industrialism, technology, have stamped their impress upon biography with the profound effects they have had everywhere upon modern life. Modern biography yields to no other art as a reflection of the modern spirit. It has seized upon instruments from all over the world and from every intellectual discipline. . . . No realm of art can lay a prouder claim than biography today to being a mirror of the modern world."

COLLECTIVE WORKS

A valuable reference work published by H. W. Wilson Company, N.Y., who have sponsored similar useful books, is *American Authors, 1600–1900,* compiled by Stanley J. Kunitz and Howard Haycraft. The long wanted sixth edition of *American Men of Science* (Lancaster, Pa., Science Press) has appeared. Claire Reis' *Composers in America* (Macmillan) includes data and lists productions of composers from 1912 to 1937. David Eugene Smith's *Portraits of Eminent Mathematicians* (N.Y., Scripta Mathematica) has brief information with likenesses. *Men of Power,* in two volumes (Nashville, Cokesbury Press), by Fred Eastman includes a variety of subjects: Cromwell, St. Francis, Leonarda da Vinci, Dickens, Jefferson and others. Lloyd W. Eshleman's *Moulders of Destiny* (Covici-Friede) deals with a few figures of the Renaissance. There are sketches of newspaper editors and owners in Georg Seldes' *Lords of the Press* (N.Y., Messner). J. T. Salter edited *The American Politician* (Univ. of North Carolina Press), including 20 politicians—Farley, LaGuardia, John Lewis, and others. *The Big Four* by Oscar Lewis (Knopf) is the story of the Central Pacific Railway and of Huntington, Stanford, Hopkins, Crocker. *Our Eleven Chief Justices* (Harper) is by Kennett B. Umbreit. *Great Indian Chiefs* (Whittlesey House) is by Albert Britt. C. A. M. Ewing's *The Judges of the Supreme Court, 1789–1937* (Univ. of Minnesota Press) is less biographical than a study of their qualifications.

PUBLIC MEN

An outstanding book of the year is Carl Van Doren's *Benjamin Franklin* (Viking). A dramatic account of an episode in his military career is *General Washington's Dilemma* (Harcourt, Brace). The Revolutionary Governor of New York is portrayed in *His Excellency George Clinton: Critic of the Constitution* (Macmillan) by E. Wilder Spaulding, and a complementary volume is *George Mason, Constitutionalist* (Harvard Univ. Press) by Helen Hill. Another work useful to the student of the period is Roger Sherman Boardman's *Roger Sherman; Signer and Statesman* (Univ. of Pennsylvania Press). *A Revolutionary Conservative* (Columbia Univ. Press) is a treatise on James Duane by Edward P. Alexander. The first biography of the subject is James A. James' *Oliver Pollock: the Life and Times of an Unknown Patriot* (Appleton-Century), a patriot who gave practical aid to the colonists in their revolt. James Madison is the subject of two new treatises, one by Abbot E. Smith (N.Y., Wilson-Erickson) and one by Edward McN. Burns (Rutgers Univ. Press), each adding new perspective. A Postmaster-General and a member of the Supreme Court, dying in 1861, John McLean now is portrayed by Francis P. Weisenberger (Ohio State Univ. Press). *The Hidden Lincoln,* from the letters and papers of William H. Herndon, edited by Emanuel Hertz (Viking) airs again some controversial points. Bruce R. Trimble's *Chief Justice Waite* (Univ. of Pennsylvania Press) of course is partly of the Civil War period. Somewhat later is Stewart Mitchell's *Horatio Seymour of New York* (Harvard Univ. Press), the Democratic leader. A storm center in the 90's was John Peter Altgeld, Illinois Governor, and his new biography by Harry Barnard is entitled *Eagle Forgotten* (Bobbs-Merrill).

A two volume work, of especial aid to students of public life, is Philip C. Jessup's *Elihu Root* (Dodd, Mead). One interested in the Populist revolt should go to C. Vann Woodward's *Tom Watson, Agrarian Rebel* (Macmillan). Light on Huey Long may be found in *The Kingfish* by Thomas O. Harris (New Orleans, Pelican Publishing Co.) Largely an analysis of his legal theories is *Cardozo and Frontiers of Legal Thinking* (Oxford). Rather iconoclastic is William Allen White's *A Puritan in Babylon* (Macmillan), treating of Calvin Coolidge.

Pleasant reading is found in the autobiography *The Education of a Diplomat* (Longmans, Green), by Hugh Wilson, much of whose career has been spent in Berlin and Latin America. Lowell Limpus and Burr Leyson have collaborated on *This Man LaGuardia* (Dutton). New York politics also enter into Nat J. Ferber's *A New American* (Farrar and Rinehart), concerning Salvatore A. Cotillo, assemblyman, state senator, justice of the New York Supreme Court. A eulogistic biography of Franklin D. Roosevelt by Emil Ludwig is *Roosevelt* (Viking). *Behind the Ballots* is an autobiographical volume by James A. Farley (Harcourt, Brace).

ARTISTS

Charles Sheeler, Artist in the American Tradition (Harcourt, Brace) is by Constance Rourke, always interesting as a biographer. *More Lives than One* (Knopf) is the autobiography of Claude Bragdon, architect, artist and philosopher. *Changing the Skyline* (Whittlesy) is by Paul Starrett, architect and builder. Fifty years of the American Theatre are the setting for Frank P. Morse's biography, *Backstage with Henry Miller* (Dutton). Another story of the John Wilkes Booth question is in Asia Booth Clarke's *The Unlocked Door* (Putnam). Clara Clemens, daughter of Mark Twain, has written of her husband, the pianist *Gabrilowitsch* (Harper). Another musician who seems like an American born is Toscanini whose life and art are studied by Lawrence Gilman (Farrar and Rinehart). *Music is My Faith* (Norton) is the autobiography of David Mannes, musician and encourager of musicians. The violinist and conductor Sam Franko writes his *Chords and Discords* (Viking). Marie Armitage edited a collection of appreciations of George Gershwin, modernist composer (Longmans, Green). Geraldine Farrar's *Such Sweet Compulsion* (Greystone Press) is the autobiography of the great singer.

MEDICAL MEN

An unusual number of men in this general field have come to notice in interesting volumes. *Claude Bernard, Physiologist* is by Dr. James Olmsted (Harper). Dr. William Alanson White chose the good title *The Autobiography of a Purpose* (Doubleday, Doran). *The Life of Chevalier Jackson* (Macmillan) is also a self portrait, as is *Leaves from a Surgeon's Case Book* (Stokes) by James Harpole. Loyal Davis is author of *J. B. Murphy, Stormy Petrel of Surgery* (Putnam). Autobiographical volumes are *I Swear by Apollo* (Farrar and Rinehart) by William E. Aughinbaugh; *Fifty Years a Country Doctor* (Dutton) by William N. Macartney. *Doctor at Timberline* (Caldwell, Idaho, Caxton) by Charles Fox Gardiner. A best seller is *The Horse and Buggy Doctor* (Harper) by Arthur B. Hertzler.

INVENTORS, NATURALISTS, ADVENTURERS

Another biography of Thomas A. Edison gives added information: *Edison's Open Door* (Dutton) by Alfred O. Tate. *Submarine* (Appleton-Century) is the appropriate title of Simon Lake's reminiscences. *Edward Wilson of the Antarctic, Naturalist and Friend* (Dutton) is by George Seaver. John Muir becomes better known through his journals, now edited by Linnie M. Wolfe (Houghton, Mifflin). *The World Was My Garden; Travels of a Plant Explorer* (Scribner) is the memoirs of David G. Fairchild, botanist. Explorer Lincoln Ellsworth's autobiography has the apt title *Beyond Horizon* (Doubleday, Doran). An adventurer on land and in the sea, John D. Craig writes *Danger is My Business* (Simon and Schuster). Douglas Corrigan, who surprised the world with a sensational transatlantic flight, writes *That's My Story* (Dutton).

WORKERS FOR HUMANITY

The earliest subject in this group is John Wesley whose biography by G. E. Harrison is entitled *Son to Susanna* (Nashville, Cokesbury Press). Another great preacher is portrayed by Paul D. Moody in *My Father: an Intimate Portrait of Dwight Moody* (Little, Brown). *Frances Willard of*

Evanston (Chicago, Willett, Clark) by Lydia J. Trowbridge is the life of a pioneer in social work. Two later settlement workers are Lillian Wald, founder of the Henry Street Settlement, whose life is written by R. L. Duffus (Macmillan), and Mary Kingsbury Simkhovitch whose autobiography is entitled *Neighborhood: My Story of Greenwich House* (Norton). *Elizabeth Seton, an American Woman* (N.Y., America Press) by Leonard Feeney is the life of Mother Seton, foundress of the Sisters of Charity. *Margaret Sanger, an Autobiography* (Norton) is the story of a great worker for woman's welfare. Two teachers enter this group, with autobiographies: William Goodell Frost, former president of Berea College, *For the Mountains* (Chicago, Revell) and the economist Richard T. Ely, *Ground Under Our Feet* (Macmillan).

MEN OF ACTION AND INDIANS

The group of warriors this year is a small one. *Gallant John Barry* (Macmillan) by William Bell Clark is the story of the naval hero of the Revolution. Less glorious was the career of Major General James Wilkinson of the same struggle, portrayed by James R. Jacobs in *Tarnished Warrior* (Macmillan). *Semmes of the Alabama* (Bobbs-Merrill) is the life of Raphael Semmes of the Confederate Navy by Walter A. Roberts. *Tecumseh and his Times* (Putnam) is by John M. Oskison. A Navajo autobiography is *Son of Old Man Hat* (Harcourt, Brace) recorded by Walter Dyk. The Cherokee linguist and genius is presented by Grant Foreman (Univ. of Oklahoma Press).

INDUSTRIALISTS

Harper Leech's and John C. Carroll's book *Armour and his Times* (Appleton-Century) presents a picture of a great business and its leader. Edward Hungerford, who has written on various railroad topics, now portrays a man and his work in *Daniel Willard Rides the Line* (Putnam). Quite a different side of industry is seen in C. L. Sulzburger's *Sit Down with John L. Lewis* (Random House).

MEN OF THE PRESS

Dana and The Sun (Dodd, Mead) by Candace Stone is largely a study of the subjects, aims and ideas of Charles Anderson Dana. Alexander Dana Noyes covers a long period in *The Market Place: Reminiscences of a Financial Editor* (Little, Brown). Mark Sullivan, author of the successful volumes, *Our America,* now writes *The Education of an American* (Doubleday, Doran), a book of memoirs. Charles B. Driscoll gives us *The Life of O. O. McIntyre* (N.Y., Greystone), the lamented columnist. Frazier Hunt's *One American and his Attempt at Education* (Simon & Schuster) is a compilation of experiences of a correspondent, largely abroad. Another foreign correspondent, Mary Knight, writes *On My Own* (Macmillan). Books by two other newspaperwomen are *Assigned to Adventure* (Lippincott) and *Three Rousing Cheers* (Appleton-Century) by the author and editor, Elizabeth Jordan.

FOREIGN SUBJECTS

As usual there are numerous entries in this class, including some scholarly products. A good example is Walter Lowrie's *Kierkegaard* (Oxford), a critical and biographical work on the Danish philosopher. *Marcus Agrippa, Organizer of Victory* (Dutton) is by F. A. Wright. *Flavius Josephus: His Time and His Critics* (Liveright) is by Leon Bernstein. The authority on China, Carl Crow, writes on Confucius in *Master Kung* (Harper). The 18th century defender of monarchy, Lamoignon de Malesherbes, is the subject of John M. S. Allison's new work (Yale Univ. Press), while *Maximilien Robespierre* is by Michal Eagan (Columbia Univ. Press). The large Voltaire bibliography is augmented by Newman L. Torry's *The Spirit of Voltaire* (Columbia Univ. Press). *Lafayette* (Farrar) by W. E. Woodward is an all-round work. The composer, Debussy, has a portrayal as man and artist by Oscar Thompson (Dodd, Mead). With reproductions of the artist's work, Charles G. Poore (Scribner) writes of Goya. Philip II finds a biographer in William T.

Walsh (N.Y., Sheed). *William Cowper, Humanitarian* is the title of Lodwick C. Hartley's book (Univ. of North Carolina Press). The jurist, Sir William Blackstone, is studied by David A. Lockmiller (Univ. of North Carolina Press). The English actress, Fanny Kemble, who for a short period lived in the South as the wife of a slave owner, is the subject of an interesting work by Margaret Armstrong (Macmillan). Fanny Keats, younger sister of the poet, furnishes Fanny Adami with material for a study (Yale Univ. Press). The same press published Geoffrey West's *Charles Darwin*. The Swiss jurist, whose theories influenced the system of government, Burlamaqui, is studied by Ray F. Harvey (Univ. of North Carolina Press). *Francisco de Toledo,* Fifth Viceroy of Peru, 1569–81, (Caldwell, Idaho, Caxton) is by Arthur F. Zimmerman. *Woman on Horseback* (Stokes) by William Barrett, concerns Francisco Lopez, Paraguay dictator of the 19th century and his Irish companion. *Don Pedro; the Magnanimous Second Emperor of Brazil* (Univ. of North Carolina Press) is by Mary W. William.

MISCELLANEOUS SUBJECTS

This group begins chronologically with *Uncommon Scold* (N.Y., Bruce Humphries) in which George S. Jackson portrays Anne Royall. Frank Smith's *Thomas Paine, Liberator* (Stokes) is a fresh interpretation. Wendell H. Stephenson gives us a period and a character in his *Isaac Franklin, Slave Trader and Planter of the Old South* (Louisiana State Univ. Press). Edith G. Hawthorne edited the rambling *Memoirs of Julian Hawthorne* (Macmillan), son of Nathaniel. Maude Howe Elliott's *Uncle Sam Ward and his Circle* (Macmillan) gives us not only Julia Ward Howe's younger brother but other interesting people. The Dane who became a leader and reformer in New York, Jacob A. Riis, is revealed by Louise Ware (Appleton Century). In a similar setting is Mary Sullivan's *My Double Life* (Farrar and Rinehart), which is the autobiography of the head of the New York Police Woman's Bureau. After working for 57 years on 15 railroads, Chauncey D. French wrote *Railroadman* (Macmillan). A continuation of an earlier volume is Henry Adams' *Letters, 1892–1918* (Houghton, Mifflin), with further illumination on a puzzling character. Quite different is *This is My Country* (N.Y., Carrick & Evans), by Stoyan Christowe, a Bulgarian who has thoroughly adopted America as his home. A very human document is Helen Keller's *Journal, 1936–1937* (Doubleday, Doran), covering the year after the death of the author's remarkable teacher and companion, Mrs. Anne Sullivan Macy.

TRAVEL

By Elizabeth T. Platt

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UNITED STATES

The great series of American guides issued by the Federal Writers' Project is growing rapidly and numbers well over 100 volumes. Among them are state guides, city guides, and route guides. It is impossible to list these individually but a catalogue is available. Florence Page Jaques' *Canoe Country,* with illustrations by Francis Lee Jaques (University of Minnesota Press), is a delightful book, both as to illustrations and text, telling of a three-weeks' trip through the lake region of the Minnesota-Canadian borderland.

WEST INDIES, SOUTH AMERICA, ETC.

Dr. Chapman has continued his account of Barro Colorado Island, Panama (F. M. Chapman, *My Tropical Air Castle,* 1929) in *Life in an Air Castle* (Appleton-Century). John W.

Vandercook's *Caribee Cruise* (Reynal and Hitchcock) tells of travel in the West Indies and endeavors to give the traveler to the region such information as he may need. John E. Jennings in *Our American Tropics* (Crowell) presents an informal guide to southern Florida, Puerto Rico, and the Virgin Islands. *Sky Roaming above Two Continents* (Stokes) by Harry Franck is an account of "an aerial cruise with many landings in the countries and islands that circle the Caribbean." *Mosquito Coast* (Houghton, Mifflin) is Peter Keenaugh's account of a journey through the jungles of Honduras.

In a *Journey to Manaos* by Earl P. Hanson (Reynal and Hitchcock) a vivid picture of the country emerges from his account of an 18 months' expedition to study terrestrial magnetism for the Carnegie Institution of Washington. The account deals with that part of the trip down the Orinoco and Rio Negro to Manaos. *The Other Side of the Mountain: An Escape to the Amazon* (Carrick & Evans, Inc.) chronicles a voyage to Peru and a headlong trek by automobile, mule and river steamer across the Andes and down the Amazon, and E. E. Loch's *Fever, Famine and Gold* (Putnam) is the "story of the adventures and discoveries of the Andes Amazon Expedition in the uncharted fastnesses of a lost world in the Llanganatis Mountains." Bruno Nordang's *Patagonian Year* (Knopf) tells of the experiences of a land surveyor in Patagonia.

EUROPE

Clyde Eddy's *Voyaging down the Thames* (Stokes) is "an intimate account of 200 miles across England and down 'the river of liquid history,' the Thames." R. M. McBride's *Towns and People of Modern Poland* (McBride) tells of present day Poland. A. M. Babey *Americans in Russia, 1776–1917* (Comet Press) is "a study of the American travelers in Russia from the American revolution to the Russian revolution." *Overland with the Nomad Lapps,* translated from the German by Vivian Ogilvie (McBride), is H. A. Bernatzik's well illustrated account of life among the Jokkmokk and Kavesuando Lapps of Sweden. Halliday Sutherland in *Lapland Journey* (Dodd, Mead) has also written of a trip which included traveling by reindeer sledge through Finland to Norway and Sweden.

AFRICA

East Africa, West Africa and a trip across the continent are included in the year's publications. Anne Lindbergh's sensitive story of the efforts to get off from the West African coast in their flight from Africa to Brazil in 1933 is beautifully told in *Listen! the Wind* (Harcourt, Brace). The adventures of a trained woman geologist in prospecting for and finding gold in the hinterland of Sierra Leone are described in Katharine Fowler Lunn's *The Gold Missus: A Woman Prospector in Sierra Leone* (Norton). Molybdenum was also found for the first time in West Africa. Turning from the West Coast to the East Coast, there is *Out of Africa* (Random House), Isak Dinesen's story of her life on a coffee plantation in the Ngong Hills of Kenya. In an effort to get the "feel of Africa" and to acquire material for the background of groups in the African Hall of the American Museum of Natural History, W. R. Leigh accompanied Carl Akeley on his last trip to East Africa and in *Frontiers of Enchantment: An Artist's Adventures in Africa* (Simon and Schuster) tells of this trip and a subsequent one in 1928. He illustrates it lavishly with his drawings. Patrick Synge's *Mountains of the Moon: An Expedition to the Equatorial Mountains of Africa* (Dutton) tells of experiences in East Africa with an expedition from the British Museum to study the flora and fauna of equatorial mountains. Notes are included on legends relating to the sources of the Nile and the Mountains of the Moon and on possible garden plants from the mountains of the region. H. W. Tilman's *Snow on the Equator* (Macmillan) also deals with mountaineering in East Africa and of a 56-day bicycle trip from Kampala, Uganda across Africa to Duala in the French Cameroons.

ASIA

Freya Starks added to her delightful sketches which picture so vividly the daily life about her in *Baghdad Sketches* (Dutton). Christina Phelps Grant has written of the channels of ancient and medieval trade, travelers and explorers of the Syrian desert, merchant caravans, and 18th century travel across the desert in *The Syrian Desert: Caravan Travel and Exploration* (Macmillian). H. V. Morton's *Through the Lands of the Bible* (Dodd, Mead) includes Aleppo, Babylon, Ur. Palestine to Egypt, and Sinai. A study of the work of medical explorers in Arabia has been made by Iago Galdston ("Medical Explorers of Arabia" *Bulletin,* New York Academy of Medicine, 2 ser. XIII, No. 9, 1937, pp. 512–538). *Search of Soviet Gold* by John D. Littlepage and Demaree Bess (Harcourt, Brace) is the account of an American mining engineer who from 1928–1937 rose to the position of chief engineer in the Soviet Gold Trust, which position afforded unique opportunity to follow the evolution of Soviet industrial organization. Gustav Krist, a young Austrian whose efforts to study the effect of the Soviet regime in Central Asia led him into North Persia, Turkestan, the Oxus Valley and the Pamirs, described these experiences with the inclusion of many pictures in *Alone Through the Forbidden Land: Journeys in Disguise Through Soviet Central Asia,* translated by E. O. Lorimer (Harcourt, Brace). The famous explorer, Sven Hedin, also writes of his experiences on an expedition to Sinkiang in *The Silk Road,* translated by F. H. Lyon (Dutton). F. Kingdon Ward in *Plant Hunter's Paradise* (Macmillan) tells of the plant and animal life of the mountains of upper Burma, Assam, and adjacent Tibet. Experiences in capturing the giant panda have been related by Ruth Harkness in *The Lady and the Panda: An Adventure* (Carrick and Evans). Henrietta Sands Merrick's *Caucus Race* (Putnam) treats of her experiences in Persia, Iraq, Syria, India, and the Netherlands East Indies.

AUSTRALASIA

Frances Ratcliffe's *Flying Fox and Drifting Sand* (McBride), the adventures of a biologist in Australia, is divided into two distinct sections of which one deals primarily with the giant fruit-eating bats known as flying foxes, the second with the question of soil erosion and drift in South Australia. *The Whalers* by Felix Maynard and Alexandre Dumas, the translation by F. W. Reed (Hillman-Curl), is a journal "written by Dr. Maynard, a French surgeon, in the wild days when New Zealand had come into some prominence as a center for sealing and whaling," originally published and edited by Dumas in 1858.

POLAR REGIONS

Lincoln Ellsworth's exploring has taken him to both polar regions and has included extensive flying. In *Beyond Horizons* (Doubleday, Doran) he has told the story of his active life including an account of the Ellsworth Trans-Antarctic Flight of 1935. George Baidukov, one of the three Soviet aviators who flew the ANT-25 from Moscow to the United States, gives a brief and vivid account of the flight in *Over the North Pole,* translated from the Russian by Jessica Smith with a preface by Vilhjalmur Stefansson (Harcourt, Brace.)

Very different from these accounts of aerial exploration is Robert Ferguson's *Arctic Harpooner: A Voyage on the Schooner Abbie Bradford, 1878–79,* edited by L. D. Stair (Univ. of Pennsylvania Press). It is a narrative based on a diary and tells of 15 months in the Hudson Bay region. The story of the Jeannette expedition has been revived in both Emma De Long's *Explorer's Wife* (Dodd, Mead) and Edward Ellsberg's *Hell on Ice* (Dodd, Mead). *Northernmost Labrador Mapped from the Air* by Alexander Forbes and others (American Geographical Society) is the narrative and scientific results of three seasons of exploration, 1931, 1932, and 1935, in the area extending south for about 100 miles from the northernmost end of Labrador.

That the exploring urge lives among the younger generation is shown by the work of the Oxford University Exploration Club, one of whose expeditions was the Oxford University Expedition to Ellesmere Land, 1934–35. An account by the organizer of the expedition on which zoological, geological, meteorological and surveying work was done is given in Edward Shackleton's *Arctic Journey* (Farrar and Rinehart). A range of mountains rising to 10,000 feet was discovered.

The physical and emotional experiences endured while living for five months isolated at Advance Base far to the south of Little America in 1934 are now told by Admiral Richard E. Byrd in *Alone* (Putnam). F. D. Ommanney's *Below the Roaring Forties: An Antarctic Journal* (Longmans, Green) is a record of personal experiences at the Discovery Expedition Marine Biological Station, South Georgia and a winter spent at African whaling stations near Durban. The author was on the Discovery II's scientific staff.

HISTORY OF EXPLORATION

Leonard Outhwaite has published a second edition of *Unrolling the Map: The Story of Exploration* with drawings of ships by Gordon Grant and 56 specially devised maps (Reynal and Hitchcock). The first edition appeared in 1935 and there have been comparatively few changes. Charles E. Key's *The Story of Twentieth Century Explorations* (Knopf) is the record of a period in which a notable amount of exploratory work was accomplished. The arrangement is geographical. The second volume of E. G. Cox's *Reference Guide to the Literature of Travel* (Univ. of Washington) deals with *The New World* and is a record of all relative material published in England up to 1800.

MISCELLANEOUS

William Beebe's *Zaca Venture* (Harcourt, Brace) is a "story of what happened during two months' cruising in the Gulf of California" and tells of observing the differences between the fishes which live in the Pacific and those of the Atlantic. The exuberant tale of the schooner *Director's* voyage through the Caribbean to the Pacific and on to New Guinea and thence to Manila is told by its youthful leaders in *Stars to Windward,* by Bruce and Sheriden Fahnestock (Harcourt, Brace). David Fairchild's *The World Was My Garden: Travels of a Plant Explorer* (Scribner) is an account based on the rich experiences of the author whose connections with the Department of Agriculture Section of Seed and Plant Introduction have led him into many remote parts of the world. T. A. Rickard's *Retrospect: An Autobiography* (Whittlesey House) is the life of a widely traveled mining engineer.

CRITICISM AND BELLES LETTRES

By Peter Monro Jack

Critic and Lecturer

GENERAL

The year's record is chiefly interesting for literary memoirs by older or recently deceased writers. These writers sum up their generation's theories and personalities. Next is the revaluation of nineteenth century American literature, already noted in the past few years and probably related to this same instinct for preservation. There have been few first-rate critical essays of contemporary importance.

LITERARY AUTOBIOGRAPHY

American.—*A Poet's Life* by Harriet Monroe (Macmillan) is subtitled Seventy Years in a Changing World. Miss Monroe died in 1936. She was the editor of *Poetry: A Magazine,* published in Chicago, and after 1912, when she helped in the so-called poetic renaissance, she greatly influenced American poetry by publishing new and interesting work. Her book is necessary for information about Vachel Lindsay, Edgar Lee Masters, Carl Sandburg, etc. *The World at My Shoulder* by Eunice Tietjens (Macmillan) is an autobiography also connected with *Poetry Magazine*. Miss Tietjens worked with Miss Monroe and has interesting memories of E. A. Robinson, Amy Lowell, Elinor Wylie, and others. Irving Bacheller's *From Stores of Memory* (Farrar & Rinehart) includes reminiscences of Mark Twain, Stephen Crane, and Lafcadio Hearn. *Living Abroad* by Norval Richardson, described as The Adventures of an American Family, has glimpses by this widely travelled diplomat of Gertrude Stein, Duse, Edith Wharton, W. J. Locke, and others. *Background in Tennessee* by Evelyn Scott (McBride) is an account of the childhood of this important American novelist. *Three Rousing Cheers* by Elizabeth Jordan (Appleton-Century), the account of a journalist's life, has much to say about the publications of Sinclair Lewis, Henry James, W. D. Howells, Mrs. Humphrey Ward, Rebecca West, etc. *Yankee Bookseller* by Charles E. Goodspeed (Houghton, Mifflin) is the story of a great bookshop. *Journeys Between Wars* by John Dos Passos (Harcourt, Brace) comprises travels in Spain, Arabia, Russia, Mexico since 1919 and is useful in explaining the life and novels of Dos Passos. *Remembering* by Nathalie Sedgwick Colby (Little, Brown), the novelist and wife of a former Secretary of State, contains her memories of Charles Eliot Norton, William James, Matthew Arnold, etc.

English.—*Over the Hills and Far Away* by Ada Galsworthy (Scribner's) is an account of the travels she and her husband, John Galsworthy, took together. *Thinking it Over* by Hesketh Pearson (Harper) includes sketches of Conan Doyle, Frank Harris, Beerbohm Tree, Shaw, Barrie, Chesterton, Belloc, Strachey, by a witty raconteur. In *The Summing Up* by Somerset Maugham (Doubleday, Doran), the novelist and playwright tells what it is to be a writer, giving sound advice, ironic commentary. It is one of the valuable books of the year. *The World I Saw* by Theodore Maynard (Bruce Pub. Co.) includes reminiscences of Chesterton, Belloc, Orage, Alice Meynell, W. R. Benét, Padraic Colum, E. A. Robinson, and Van Wyck Brooks. *The Honeysuckle and the Bee* by Sir John Squire (Dutton) is desultory reminiscences by one of England's best known men of letters through the Edwardian and Georgian periods, also sketches of Rupert Brooke, Asquith, John Lane, etc. *Georgian Adventure* by Douglas Jerrold (Scribner's) contains memories of his grandfather's acquaintance with Leigh Hunt, Dickens and Thackeray, joined with the grandson's experiences in editing the *New Oxford Review*. *Time Gathered* by W. B. Maxwell, the popular novelist, daughter of May Braddon, is a literary autobiography, including some excellent pages on Oscar Wilde. *Goodbye West Country* by Henry Williamson (Little, Brown) is the story of his life in Devon where he wrote of salmon and otter, with notes of his acquaintance with Hardy, T. E. Lawrence, Galsworthy. *Thrice a Stranger* by Vera Brittain (Macmillan) is the record of a visiting English novelist. *Patches of Sunlight* by Lord Dunsany (Reynal & Hitchcock), autobiography, is interesting chiefly for its connection with the Abbey Theatre of Dublin. *Under the Open Sky* by Martin Anderson Nexo is the story of the Danish author of *Pelle the Conqueror* and his rise from poverty in a Copenhagen slum.

REVALUATIONS

American. — *Young Longfellow, 1807-1843* by Lawrence Thompson (Macmillan) is a clear, complete, more truthful account of the poet's formative years, with much documentation. *Walt Whitman's Pose* by Esther Shepherd (Harcourt, Brace), argues that Whitman found his romantic-democratic and "workman" character from George Sand's little-known novel, *The Countess of Rudolstadt,* where such a character is glorified in much the same language as Whitman's. *Whitman,* by Newton Arvin (Macmillan) is an argument in favor of Whitman's Socialism, where others (Dell, Canby, etc.), have believed in his individualism. *Walt Whitman and the Springs of Courage* by Haniel Long (N. M.: Writers Editions) is an impressionistic glance into the "high spots" of Whitman's career. *Louisa May Alcott* by Katharine Anthony (Knopf) is a book generally reviewed as not having made enough of its subject. *Mark Twain. A Portrait* by Edgar Lee Masters (Scribner's) is a restatement of Van Wyck Brook's theory that Twain was a suppressed genius. It was unfavorably reviewed. *Mark Twain's Western Years* by Ivan Benson (Stanford University Press) explains the influence on Clemens of the West, with hitherto unreprinted Western items. *Sailor on Horseback,* the biography of Jack London by Irving Stone (Houghton Mifflin), is a careful compilation, much of it from London's own writings. *E. A. Robinson* by Hermann Hagedorn (Macmillan) is the first full-length biography of the poet who died in 1935. *This Was a Poet* by George Frisbie Whicher (Scribner's) is a new independent critical study of Emily Dickinson.

English.—*Adonais,* a life of Keats by Dorothy Hewlett (Bobbs-Merrill), is a good modern biography, best in its relation of Keats and Fanny Brawne. *Mary Shelley* by R. Glynn Grylls (Oxford) has new material that puts Mary Shelley in a better light. *Arthur Rimbaud in Abyssinia* by Enid Starkie (Oxford) deals with the colonial activities of this famous French poet who sold arms to the Abyssinians fighting the Italians. *A New Life of Sir Walter Scott* by Sir Herbert Grierson (Columbia Univ. Press), following the great edition of the Letters edited by Grierson, is a new biography, incorporating the new material, correcting and supplementing Lockhart, and probably definitive. *Scott and Scotland* by Edwin Muir (Speller) is an essay suggesting that Scott did not express himself completely because of the lack of a national background. *James Matthew Barrie,* an appreciation by James A. Roy (Scribner's), is particularly useful in showing Barrie's early life through his novels. *My Brother, A. E. Housman,* personal recollections by Laurence Housman (Scribner's), has 30 unpublished poems and numerous important letters. *The Writings of E. M. Forster* by Rose Macaulay (Harcourt, Brace) is the first critique of an older writer who has much influence on the young through his appeal for tolerance and freedom. *Life of D. H. Lawrence* by Hugh Kingsmill (Dodge) is a new and sensible revaluation of Lawrence's influence on his contemporaries, chiefly on Aldous Huxley.

NEW MATERIAL

Young Emerson Speaks, edited by Arthur Cushman McGiffert, Jr. (Hougton, Mifflin), is a selection from 170 sermons by Ralph Waldo Emerson when he was preaching at the age of 25, representative of the development of his mind. *The Journals of Bronson Alcott,* edited by Odell Shephard (Little, Brown), is a selection from one of the great diarists of New England, and an illuminating record of its "flowering." *John of the Mountains,* the unpublished Journals of John Muir, edited by Linnie Marsh Wolfe (Houghton, Mifflin), is the literary remains of the naturalist from California. *Letters of Henry Adams: 1892-1918,* edited by Worthington Chauncey Ford (Houghton, Mifflin), the second and possibly the final collection, is called "the most interesting body of correspondence yet penned by an American" and one that "brings him much closer as a human being." *Further Letters of G. M. Hopkins,* edited by C. C. Abbott (Oxford), is an extremely well edited volume of what probably is all there will be to print of this influential Victorian poet, interesting particularly for the letters to and from Coventry Patmore. *Letters to a Friend* by Winifred Holtby, edited by Alice Holtby and Jean McWilliam (Macmillan), was written chiefly between 1920—1927; the novelist of *South Riding* throws light on her life as a writer and as a public figure in connection with the League of Nations.

CRITICAL ESSAYS

The most important book of the year in the critical essay field is Edmund Wilson's *The Triple Thinkers* (Harcourt, Brace), essays on Pushkin, P. E. More, Housman, Flaubert, Henry James, John Jay Chapman, Samuel Butler, Shaw, and two essays on a literature of ideas as well as a literature of style from a reasonable "leftist" point of view. *Maule's Curse* by Yvor Winters (Yale U. Press), subtitled Seven Studies in the History of American Obscurantism, is a serious and useful survey of Hawthorne, Cooper, Melville, Jones Very, Dickinson, Henry James, and Poe, the last of whom Winters believes to have been badly over-rated. *America Now* is an inquiry into "Civilization in the United States," edited by Harold Stearns (Scribner's). In 1923 Mr. Stearns, before expatriating himself in Europe, edited a similar volume. The present compilation has five of the earlier contributors; the others are new. European standards are given up, and the writers express their complete faith in America. *Variety,* Second Series, by Paul Valery (Harcourt, Brace), is made up of essays by this influential French critic on the present intellectual disorder, with set pieces on Villon, Verlaine, Baudelaire, Stendhal. *English Pastoral Poetry,* by William Empson (Norton) is a new psychological explanation of the reasons for the pastoral tradition in Milton, Spenser and Housman, by a brilliant young Cambridge critic.

Letters to Philippa by Dorothea Brande (Sheed & Ward), deals with the modern novel but is chiefly in favor of the older novel. *Seventeenth Century Studies,* essays presented to Sir Herbert Gierson in the field where he has done most, by T. S. Eliot, E. M. W. Tillyard, Legouis, Garrod, Tovey, etc., with a preface by J. Dover Wilson, is a tribute to one of the outstanding scholars of his day. *Poetry and Its Contemplation* by G. Rostrevor Hamilton (Macmillan) is a defence of poetry as "sui generis," *i.e.* against the psychological usefulness of I. A. Richards's doctrines. *Play in Poetry* by Louis Untermeyer (Harcourt, Brace) contains papers prepared for delivery at Amherst College; they are best when they discuss the "Sense of Nonsense" in Lear, Ogden Nash, etc. *The World's Body* by John Crowe Ransom (Scribner's), contains essays on the meaning and psychology of poetry by a southern agrarian poet. *Four French Novelists* (Oxford) contains critical essays, biographical, psychological, literary, on Proust, Gide, Giraudoux, Morand. *Towards the Twentieth Century* (Macmillan) is a series of essays on the spiritual history of the nineteenth century by H. V. Routh, the influence of the French revolution on the Lake poets, of the Germans on Carlyle, the Oxford Movement, Darwinism, the teaching of Matthew Arnold, the attitudes toward life of Gissing, Hardy, Meredith, George Moore. *Heroes of Thought* by John Middleton Murry (Messner) is made up of essays on "the growth of the modern mind," including Chaucer, Montaigne, Shakespeare, Milton, Cromwell, Rousseau, Wordsworth, Marx, Morris, Goethe.

MISCELLANEOUS ESSAYS

1938 Essay Annual, edited by Erich A. Walter (Appleton-Century), is the year's selection which includes De Voto, Otis Ferguson, Laski, Elmer Davis, and others. *An American Reader,* with an introduction and commentaries by Burton Rascoe, is a centennial volume of American writings selected from the publications of the House of Putnam's, 1838–1938 (Putnam's). *Morley's Magnum,* the second Christopher Morley omnibus (Lippincott), contains more essays, plays, etc. *What a University President has Learned* by A. Lawrence Lowell (Macmillan) contains essays on a variety of subjects by the former President of Harvard and is generally concerned with the higher education of American colleges and the student mind. *The Coloured Lands* by G.

K. Chesterton (Sheed and Ward) is a posthumous collection of the writer who died in 1936, containing essays from the age of 17, illustrated by the author.

The Morning After the Night Before by George Jean Nathan (Knopf) contains essays on the theatre, critics, playwrights. *From A Paris Scrapbook* by Richard le Gallienne (Washburn) has memories of old and modern Paris. *Earth Memories* (Norton), essays by Llewelyn Powys on humanism and English nature, has an introduction by Van Wyck Brooks. *The Greenwood Hat. A Memoir of James Anon (1885–1887)* is the newspaper articles and essays of Sir James Barrie, under his pseudonym, with later comments, and with an introduction by Lord Baldwin. *The Living Torch* by AE and edited by Monk Gibbon (Macmillan) contains selections from the late Irish poet's work for the Irish world of his day, and has a great deal about W. B. Yeats. *A Vision* by W. B. Yeats (Macmillan) is a revised and rewritten (from 1925) thesis of Yeat's spiritual and symbolic geometry, a curious, esoteric book.

LITERATURE AND TEACHING

The March of Literature by Ford Madox Ford (Dial Press) is a magnificent story of literature from Confucius' day to our own, with Ford's commentaries. *Enjoyment of Literature* by John Cowper Powys (Simon & Schuster) is an enthusiastic runover that includes the Bible, the Greeks, Dante, Rabelais, Montaigne, Cervantes, and the moderns where Dostoievsky is classed first and Hardy second. *The Lonely Debate* by Houston Peterson (Reynal & Hitchcock) is an unusual way of treating the soliloquy throughout the ages, the philosophical content of man's mind when alone, an anthology and interpretation. *Interpretation of Teaching* by I. A. Richards (Harcourt, Brace) deals with the best actual methods of teaching rhetoric, grammar, and logic by this original Cambridge psychologist and literary scholar. *Literature as Exploration* by Louise Rosenblatt (Appleton-Century) is a new approach to the teaching of literature, mainly from the point of view of the student. *Literature, the Leading Educator* by Francis P. Donnelly, S. J. (Longmans, Green) is an appeal for the classics. *Discovering Drama* by Elizabeth Drew (Norton) deals with the importance above all of the meaning of the content of the play, with emphasis on Chekhov and Ibsen. *The Tyranny of Words* by Stuart Chase (Harcourt, Brace) is a popularization of the work of Ogden and Richards in *The Meaning of Meaning,* a new comment on the misuse of words. *The Wonder of Words* by Isaac Goldberg (Appleton-Century) is a study of words from earliest speech to the latest *Basic English* of Ogden.

VARIOUS BELLES LETTRES

Three Guineas by Virginia Woolf (Harcourt, Brace) is an extended essay on the best way to spend three guineas: one goes toward women's higher education, another toward the increase of her professional opportunities, and the third to a society which seeks the prevention of war for the protection of culture and intellectual liberty. *Skye High* by Hesketh Pearson and Hugh Kingsmill (Oxford) is an entertaining account of a journey that these two contemporary biographers made through Scotland and the Hebrides in the footsteps of Johnson and Boswell. *I Follow Saint Patrick* by Oliver St. John Gogarty (Reynal & Hitchcock) is a literate reverent, and often humorous, account of travel through Ireland. *Suwannee River* by Cecile Hulse Matschat (Farrar & Rinehart) is the third volume in the Rivers of America series, the region popularized by Stephen Foster and where ballads of Lord Randall are still sung. *A Prairie Grove* by Donald Culross Peattie (Simon & Schuster) is a commentary on the American scene of birds, beasts, and flowers by the foremost literary naturalist.

Ladies and Gentlemen in Victorian Fiction by E. M. Delafield (Harper) deals with the customs and manners of the characters of Charlotte Yonge, Mrs. Henry Wood, Rhoda Broughton, etc. *A History of the Printed Book,* No. 3 of the *Dolphin,* edited by Lawrence C. Wroth (Yale: Ltd. Ed. Club), is an important addition to the bibliography of books, on the origin and development of books, the printing house, and a summary of printing history. *The Annual of Bookmaking,* the *Colophon,* has bibliographies, varied and interesting types, illustrations of fine book production, etc. *New Writing,* edited by John Lehmann (Knopf), is a twice-a-year compendium of anti-Fascist, democratic, or left-wing writing, American, French, German-in-exile, Spanish loyalist, Russian and Georgian, Chinese, including Sholokhov, Silone, Forster, MacNeice, Auden, Isherwood. *New Directions,* edited by James Laughlin III (N.D., Norfolk, Conn.) is American and more experimental, including Delmore Schwartz, Ruth Lechlitner, Saroyan, C. H. Ford, etc. *Tobacco, Its History,* illustrated by the books, manuscripts, and engravings in the library of George Arents, Jr., with introduction, glossary, and bibliographic notes by Jerome E. Brooks (The Rosenbach Company) is for literary devotees of My Lady Nicotine.

TRIVIA

With Malice Toward Some by Margaret Haley (Simon & Schuster) contains some malicious observations by an exchange professor's wife on her stay in England, and it achieved considerable popularity. *Can Women Be Gentlemen?* By Gertrude Atherton (Houghton, Mifflin) contains various theories, ideas and impressions on women that make brief, amusing reading. *Profiles from The New Yorker,* with a preface by Clifton Fadiman (Knopf), contains 23 pieces of the smartest kind of personal journalism being written. *Dithers and Jitters* by Cornelia Otis Skinner (Dodd, Mead) has light sketches of laughable situations. *The Dissenting Opinions of Mr. Westbrook Pegler* (Scribner's), the *World Telegram's* columnist, is in his best "Is that so?" mood. *Tales of a Wayward Inn* by Frank Case (Stokes), the host of the Algonquin, the New York equivalent of the Mermaid Tavern, tells of his literary and theatrical guests.

ENGLISH LANGUAGE AND LITERATURE

By Albert Croll Baugh

Professor, University of Pennsylvania

GENERAL

This survey of American research in the field covered, like its predecessors, is selective. Many studies concerned with details too technical for the layman are omitted although they are often of considerable importance to the philologist and the literary historian. A complete list of such contributions will be found in the author's bibliography in the Supplement to the *Publications of the Modern Language Association* (*PMLA*).[1] The reader should also consult Hardin Craig's "Recent Literature of the English Renaissance" (*SP*), Richmond P. Bond's "English Literature, 1660–1800: A Current Bibliography" (*PQ*), Walter Graham's "The Romantic Movement: A Current, Selective and Critical Bibliography" (*ELH*), and the "Victorian Bibliography" (*MP*), compiled by the Victorian research group of the Modern Language Association, all of which except the first include foreign as well as American work. H. K. Russell, "Theses for the Year" (*South Atlantic Bull.*) lists M.A. and Ph.D. theses, published and unpublished, in English and the modern languages.

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[1] Periodicals are cited under the following abbreviations, the reference being always to the volume for the year covered by this review:—*PMLA, Publications of the Modern Language Association of America; MP, Modern Philology; MLN, Modern Language Notes; MLR, Modern Language Review; JEGP, Journal of English and Germanic Philology; SP, Studies in Philology; PQ, Philological Quarterly; ELH, A Review of English Literary History; RES, Review of English Studies; ELH, English Literary History; HLB, Huntington Library Bulletin; SAB, Shakespeare Association Bulletin; RR, Romanic Review.* Titles appearing as theses or in the publications of universities are followed where possible by the name of the university.

THE ENGLISH LANGUAGE

For a convenient bibliography of current linguistic studies the reader may consult two lists contributed to each number of *American Speech,* one by E. V. K. Dobbie covering general and historical studies, the other by A. L. Hench on present-day English. Kemp Malone surveys "Some Linguistic Studies of 1935 and 1936" (*MLN*). In the field of experimental phonetics Karl A. Windesheim traces "The Evolution of Speech Recording Machines" (*Qu. Jour. of Speech*); Joseph Tiffin and his associates offer "An Approach to the Analysis of Vibration of the Vocal Cords" (*ibid.*); and Merle Ausberry investigates "The Effect upon the Ability to Discriminate between Speech Sounds by the Elimination of Frequencies above 4,000 Cycles" (*ibid.*). In the field of Old English philology Sherman Kuhn has made a valuable start on *A Grammar of the Mercian Dialect* in his University of Chicago dissertations. Herbert Meritt discusses "Possible Elliptical Compounds in Old English Glosses" (*Am. Jour. Phil.*), and Francis P. Magoun, Jr. continues his studies of "Territorial, Place-, and River-Names in the Old English Annals, *D*-text (MS Cotton Tiberius B IV)" (Harvard). Stefán Einarsson notes "Two Scancinavisms in the *Peterborough Chronicle* (*JEGP*). C. M. Lotspeich has considered "The Type OE *loca hwa,* ME *looke who*" (*JEGP*), one of several OE indefinite pronouns whose semantic development is not easily explained. Henry B. Woolf, who has published several valuable studies of Old English names, has investigated "The Naming of Women in Old English Times" (*MP*) and finds that the same principles of alliteration and variation were employed in naming women as in naming men. Allen W. Read, in "Suggestions for an Academy in England in the Latter Half of the Eighteenth Century" (*MP*), shows that the idea of an academy was by no means dead in the period stated. C. C. Fries offers "Some Notes on the Inflected Genitive in Present-Day English" (*Language*). Warren Taylor, in "A Note on English Figures of Speech" (*MLN*), reports earlier dates for the names of figures of speech than those given in the *NED*. Stuart Chase's *The Tyranny of Words* is a study in popular semantics. For their interest to the layman mention may be made of J. M. Steadman's "Affected and Effeminate Words" and Harold B. Allen's "Dictionary Editor's Lingo" (both in *Am. Speech*).

GENERAL LITERATURE

Mason Long's *Poetry and Its Forms* is a guide to the appreciation of poetry, and John P. Bishop's "The Discipline of Poetry" (*Va. Qu. Rev.*) is on the place of poetry in contemporary life. John C. Ransom, in *The World's Body,* presented a study in literary criticism, with special reference to poetry. Louis Teeter, in "Scholarship and the Art of Criticism" (*ELH*), maintains that the two things are not irreconcilable and justifies the work of the scholar. Louise M. Rosenblatt's *Literature as Exploration* is primarily concerned with problems of teaching English in the high school but has a somewhat wider interest. Wilson O. Clough investigates *The Rhythm of Prose* (Wyoming) and Charles E. Moore offers "A Preliminary Study of the Emotional Effects of Letter-Sounds" (*Qu. Jour. of Speech*). J. W. Ashton, in "Rymes of . . . Randolf, Erl of Chester" (*ELH*), studies the career of a popular figure in literature. Two useful bibliographies are Mary R. Lingenfelter's *Vocations in Fiction* and Edward G. Cox's *The New World,* the latter forming the second volume of *A Reference Guide to the Literature of Travel* (Washington). *A Survey-History of English Literature,* by W. B. Otis and M. H. Needleman, although written as a textbook for students, is so full of facts and information that it would serve as a convenient reference book for the general reader.

OLD ENGLISH LITERATURE (TO 1150)

In "Bede's Story of Caedmon Again" (*MLN*) Fr. Klaeber returns to an interpretation he suggested many years ago. Charles W. Jones traces the complicated history of "The Byrhtferth Glosses" (*Medium Aevum*) and concludes that they are not by Byrhtferth. Kemp Malone, in "Widsith and the Critic" (*ELH*), replies to certain criticism of his edition of the poem. Carleton Brown, "*Beowulf* and the *Blicking Homilies* and Some Textual Notes" (*PMLA*), offers reason for believing that the homily echoes the *Beowulf*. In "Beowulf, Hrothgar and Grendel" (*Archiv*) Stephen J. Herben advances the hypothesis that the first part of *Beowulf* reflects a pagan cult demanding human victims and protected by a taboo on the use of weapons, a cult mentioned by Tacitus. Henry B. Woolf argues that "The Name of Beowulf" (*Engl. Studien*) was Ælfhere and that Beowulf was a nickname. The same author discusses "The Personal Names in *The Battle of Maldon*" (*MLN*). J. R. Hulbert comments "On the Text of the Junius Manuscript" (*JEGP*) in Krapp's edition. Two late Old English texts are treated in Robert J. Menner's "Nimrod and the Wolf in *Solomon and Saturn*" (*JEGP*) and Philip H. Goepp's "The Narrative Material of *Apollonius of Tyre*" (*ELH*). Rudolph Willard, in "The Two Accounts of the Assumption in Blickling Homily XIII" (*RES*), shows that the homily is not based on *Transitus B* but in part on the text recently established by Dom Wilmart. Mason Long's "The Bible in Anglo-Saxon Literature" is in a volume of *Essays in Honor of A. Howry Espenshade.*

MIDDLE ENGLISH LITERATURE (1150-1500)

A topic with unexpected ramifications has been investigated by Vincent F. Hopper in *Medieval Number Symbolism: Its Sources, Meaning, and Influence on Thought and Expression* (Columbia). Another subject of general importance in the Middle Ages has been treated by John T. McNeill and Helena M. Gamer in *Medieval Handbooks of Penance: Translations and Selections.* R. H. Robbins discusses "The Earliest Carols and the Franciscans" (*MLN*), pointing out references to and texts of carols showing the early association of the form with the Franciscans. James R. Kreuzer prints a fifteenth-century poem on "The Twelve Profits of Anger" (*PMLA*), and James E. Carver, in "The Northern Homily Cycle, and Missionaries to the Saracens" (*MLN*), notes an allusion which makes it probable that the *Northern Homily Cycle* was written between 1295 and 1306.

Several significant studies in the field of Arthurian Romance have appeared in the course of the year. The most elaborate is *Arthurian Legend in Medieval Art* by Roger S. and Laura H. Loomis. Roger Loomis has also replied vigorously to his critics in "Geoffrey of Monmouth and the Modena Archivolt: A Question of Precedence" (*Speculum*) and "The Modena Sculpture and Arthurian Romance" (*Studi Medievali*). John J. Parry discusses "Geoffrey of Monmouth and the Paternity of Arthur" (*Speculum*) and J. S. P. Tatlock contributes a critical study of the person of "Caradoc of LLancarfan" (*Speculum*). A. H. Krappe, "Who *Was* the Green Knight?" (*Speculum*), identifies the character with the Lord of Hades, with vestiges of the public executioner about him. Henry L. Savage, in "*Sir Gawain* and the Order of the Garter" (*ELH*), offers a preliminary statement of a hypothesis which he will develop in a forthcoming volume, connecting the poem with certain contemporary events. Several interesting articles have been devoted to *Piers Plowman.* George W. Stone, Jr. offers "An Interpretation of the A-Text of *Piers Plowman*" (*PMLA*), attempting to bring order out of apparent confusion and to demonstrate that the poem has a definite plan. Henry W. Wells, in "The Philosophy of Piers Plowman" (*PMLA*), believes that the lives of Do-wel, Do-bet, and Do-best should be understood as mental states rather than as actual vocations. Mildred E. Marcett has done a dissertation on *Uhtred de Boldon, Friar William Jordan, and Piers Plowman* (N. Y. Univ.), offering a well-documented biography of the monk of Durham, an account of his dispute with Jordan, and suggesting that Jordan served as the original for the Doctor in *Piers Plowman,* B XIII.

In the fifteenth century we may note E. Bagby Atwood's "Some Minor Sources of Lydgate's Troy Book" (*SP*) in which he disposes of the idea that Lydgate used the *Roman de Troie* in addition to Guido. Mendal G. Frampton, "The Date of the 'Wakefield Master'; Bibliographical Evidence" (*PMLA*) supports his view that the Wakefield genius worked in the reign of Henry VI and, incidentally, prints Burton's second list, hitherto available only in Davies' inaccurate transcript. John H. Smith differs with Frampton on certain points in "The Date of Some Wakefield Borrowings from York" (*PMLA*). Anna J. Mill prints extracts from guild accounts concerning "The Hull Noah Play." Kurt F. Bühler offers "Some New Paston Documents" (*RES*), from materials in the Pierpont Morgan Library. "Englishmen in Rome during the Renaissance" (*MP*), by Vincent J. Flynn, is an account of a MS. discovered among the archives of the Venerable English College in Rome with entries covering the years 1449–1514.

CHAUCER

Chaucer as usual retains his popularity with American scholars. One of Chaucer's friends is the object of two papers by Haldeen Braddy, "Sir Oton de Graunson—'Flour of hem that make in Fraunce' " and "Messire Oton de Graunson, Chaucer's Savoyard Friend" (both in *SP*). The same author offers a further discussion of "Froissart's Account of Chaucer's Embassy in 1377" (*RES*) and notes an interesting parallel to a feature in the *Squire's Tale* in "Cambyuskan's Flying Horse and Charles VI's 'cerf volant' " (*MLR*). Karl Young, "Chaucer's *Troilus and Criseyde* as Romance" (*PMLA*), considers the disposition to treat the poem as a psychological novel as not entirely justified and examines it from the point of view of medieval romance. Louis A. Haselmayer, Jr. illustrates the rhetorical device known in the Middle Ages as *effictio* in "The Portraits in *Troilus and Crisevde*" (*PQ*). Margaret Galway's "Chaucer's Sovereign Lady: A Study of the Prologue to the *Legend* and Related Poems" (*MLR*), is an article of first importance. The author supports with arguments of great cogency the view that Alceste is Joan, the Fair Maid of Kent, widow of the Black Prince, and that the earlier version of the Prologue was written in the summer of 1385 at Wallingford, where Joan was surrounded by a company that included a number of Chaucer's known friends. M. L. S. Lossing, "The Order of the Canterbury Tales: A Fresh Relation between A and B Types of MSS" (*JEGP*), notes a curious logic in the shifting of Groups F and G and explains it as a result of piracy. In "The Haberdasher and His Companions" (*MLN*) Thomas A. Kirby maintains that the five city workers were gildsmen of the class that "wore the livery" and gradually acquired control of the crafts. Thomas H. McNeal believes that the *Man of Law's Tale* shows a relation between "Chaucer and *The Decameron*" (*MLN*), a circumstance which, if true, carries wider implications. Mrs. Germaine Dempster opposes the view put forward by the present writer that "The Original Teller of the *Merchant's Tale*" (*MP*) was the friar. Mrs. Beatrice D. Brown defends the attribution of "Chaucer's *Wretched Engendrynge*" (*MP*) against Mrs. Dempster's attack. Pauline Aiken continues her examination of Chaucer's relation to Vincent of Beauvais in two papers, "Vincent of Beauvais and the Green Yeoman's Lecture on Demonology" (*SP*) and "Chaucer's *Legend of Cleopatra* and the *Speculum Historiale*" (*Speculum*). Mention may be made of F. M. Salter's "Chaucer: A Character Analysis" (*University Rev.*), Ruth Crosby's "Chaucer and the Custom of Oral Delivery" (*Speculum*), and Richard C. Boys's "Some Chaucer Allusions 1705–1799" (*PQ*), the last of which contains a useful bibliography of Chaucer allusions published since 1925.

MODERN ENGLISH LITERATURE (1500-1600)

"The Dating of Skelton's Later Poems" (*PMLA*), by H. L. R. Edwards and William Nelson is an important exchange of views growing out of the latter's articles mentioned in THE AMERICAN YEAR BOOK for 1936. M. E. Borish, "Source and Intention of *The Four Elements*" (*SP*), identifies the source as Reisch's well-known encyclopedia of the Seven Liberal Arts, the *Margarita Philosophica,* in the edition of 1515. George B. Parks examines Rastell's sources for "The Geography of the *Interlude of the Four Elements*" (*PQ*). The same author has also discussed "More's Utopia and Geography" (*JEGP*). The Modern Language Association has published Edwin Casady's *Henry Howard, Earl of Surrey*. A much needed scholarly edition of *The Mirror for Magistrates* has been published by Lily B. Campbell from original texts in the Huntington Library. C. T. Prouty, in "George Gascoigne and Elizabeth Bacon Bretton Boyes Gascoigne: A Series of Problems and Their Answers" (*RES*), clears up a number of questions, such as the ancestry of Elizabeth Bacon, the date of her first marriage, her second marriage and divorce, the date of her marriage to Gascoigne, etc. George B. Parks describes "The First Draft of Ascham's *Scholemaster*" (*HLQ*) from the MS. in the Huntingdon Library. Bernard M. Wagner prints three "New Poems by Sir Philip Sidney" (*PMLA*), from Kniveton's MS., and Denver E. Baughan, in "Sir Philip Sidney and the Matchmakers" (*MLR*), portrays the difficult situation with respect to marriage in which Sidney was placed by his family.

SPENSER AND OTHERS

Spenser scholarship was less fully represented in 1938 than usual. Raymond Jenkins has filled in "Spenser: The Uncertain Years 1584–1589" (*PMLA*) by tracing the career in Ireland of Sir John and Sir Thomas Norris as a clue to Spenser's experiences. Jefferson B. Fletcher has studied "'The Legend of Cambel and Triamond' in the Faerie Queene" (*SP*), and Herbert D. Rix, in "Spenser's Rhetoric and the 'Doleful Lay'" (*MLN*), offers evidence in support of Spenser's authorship.

William Ringler finds "The Immediate Source of Euphuism" (*PMLA*) in the lectures of John Rainolds, reader in Greek at Oxford, which Lyly and the other early writers in the Euphuistic manner heard. Herbert Hartman has edited George Pettie's *A Petite Pallace of Pettie His Pleasure*. Don C. Allen, using precious stones as a test, measures the proportion of "Science and Invention in Greene's Prose" (*PMLA*). Matthew W. Black edited *Elizabethan and Seventeenth Century Lyrics,* a collection of nearly 600 poems. Lisle C. John's *The Elizabethan Sonnet Sequences: Studies in Conventional Conceits* is a Columbia dissertation. Tucker Brooke writes on "Sir Walter Raleigh as Poet and Philosopher" (*ELH*), and Franklin B. Williams, Jr. describes the various volumes of "The Epigrams of Henry Parrot" (Harvard).

ELIZABETHAN DRAMA

Elizabethan drama has its usual bulk of significant scholarship. James R. Kreuzer notes "Some Earlier Examples of the Rhetorical Device in *Ralph Roister Doister* (iii. iv. 33ff.)" (*RES*). B. J. Whiting continues his studies in proverb literature with a volume on *Proverbs in the Earlier English Drama* (Harvard). R. R. Cawley has investigated the interrelations of *The Voyagers and Elizabethan Drama*. In "A Census of Bad Quartos" (*RES*) Leo Kirschbaum describes 21 Elizabethan quartos not based on a written transcript of the author's text. The same author, in "Is *The Spanish Tragedy* a Leading Case? Did a Bad Quarto of Love's Labour's Lost Ever Exist?" (*JEGP*), maintains that the publisher of a bad quarto had full publishing rights to the good text. Marc Friedlaender, "Some Problems of *A Yorkshire*

Tragedy" (*SP*), considers that Scene I may be by Shakespeare.

Samuel A. Tannenbaum's Ben Jonson (*A Concise Bibliography*) is the second in his series of *Elizabethan Bibliographies. Classical Mythology in the Plays, Masques, and Poems of Ben Jonson* (Cincinnati) is a study by Charles F. Wheeler. R. C. Bald has edited *Hengist, King of Kent; or, The Mayor of Queenborough* from the manuscript in the Folger Shakespeare Library. Alfred Harbage, in "The Authorship of the Dramatic *Arcadia*" (*MP*), shows that the play was probably not by Shirley, although possibly by *Henry* Shirley. The same author has compiled "A Census of Anglo-Latin Plays" (*PMLA*). Celeste T. Wright supplements the earlier studies of Stonex in "The Usurer's Sin in Elizabethan Literature" (*SP*), and William Haller treats *The Rise of Puritanism* in the light of the sermons and other writings of the period 1570–1643.

SHAKESPEARE

The scholarship on Shakespeare is so extensive that only a selection of the more important items can be given. S. A. Tannenbaum has published his annual survey, "Shakspere and His Contemporaries in the Literature of 1937: A Classified Bibliography" (*SAB*). Leslie Hotson continues his search for records of Shakespeare and his associates in *I, William Shakespeare do appoint Thomas Russell, Esquire.* Tannenbaum attacks the authenticity of certain "New Shakspere Signatures" (*SAB*). In "The Tyger's Heart Wrapt in a Player's Hide" (*SAB*) Thomas H. McNeal argues that Shakespeare resented Greene's attack and retaliated. Hyder E. Rollins has edited *The Poems of William Shakespeare* for the New Variorum edition. C. A. Greer, in "The Place of *1 Henry VI* in the York-Lancaster Tetralogy" (*PMLA*), opposes the view of Tucker Brooke that the revision of the play dates from after 1599. Harry R. Hoppe suggests a hypothesis to account for "The First Quarto Version of *Romeo and Juliet,* II. vi. and IV. v. 43ff" (*RES*). Thomas M. Parrott and Hardin Craig have published *The Tragedy of Hamlet: A Critical Edition of the Second Quarto, 1604,* and Oscar J. Campbell has written an introduction for a facsimile of the second quarto published by the Huntingdon Library. John W. Draper has published several Shakespearian interpretations including "Sir Toby's 'Cakes and Ale'" (*English Studies*), "Macbeth as a Compliment to James I" (*Engl. Studien*), "The Humor of Corporal Nym" (*SAB*), and "Falstaff and the Plautine Parasite" (*Classical Jour.*). Another interpretation of the last-named character is offered by John W. Shirley, "Falstaff, an Elizabethan Glutton" (*PQ*). Fernand Baldensperger has reconsidered the question "Was Othello an Ethiopian?" (Harvard). John C. Adams suggests an ingenious interpretation of "The Staging of *The Tempest,* III. iii" (*RES*). A few rather more general topics are treated in Alwin Thaler, "Shakespeare on Style, Imagination, and Poetry" (*PMLA*); Albert L. Walker, "Convention in Shakespeare's Description of Emotion" (*PQ*); Thomas M. Raysor, "Intervals of Time and Their Effect upon Dramatic Values in Shakespeare's Tragedies" (*JEGP*); John W. Draper, "Flattery, a Shakespearean Tragic Theme" (*PQ*); and R. Balfour Daniels, "Shakspere and the Puritans" (*SAB*). *Shakespeare's Influence on the Drama of His Age Studied in Hamlet* is the title of a volume by Donald J. McGinn (Rutgers), and D. M. McKeithan investigates *The Debt to Shakespeare in the Beaumont and Fletcher Plays* (Texas).

SEVENTEENTH CENTURY

The Literature of the English Bible is the title of a book by W. O. Sypherd. Grant McColley has translated *The Defense of Gallileo of Thomas Campanella* (Smith), a work of some interest for the scientific background of seventeenth century literature. J. D. M. Ford's "The First English Translator of the *Lusiadas* of Camoens, Sir Richard Fanshawe" was a presidential address before the Modern Humanities Research Association. C. Bowie Millican's "Ralph Knevet, Author of the *Supplement* to Spenser's *Faerie Queene*" establishes Knevet's authorship of the holograph MS. in the Cambridge University Library, and Frederick Hard notes "Two Spenserian Imitations, by 'T. W.'" (*ELH*). "The History of an Unfortunate Lady" (Harvard), by Theodore Spencer, is an account of the wife of Sir John Davies.

The year's work on Milton was opened auspiciously by the completion of the Columbia edition of *The Works of John Milton* in 18 volumes. Grant McColley, in "Milton's Technique of Source Adaptation" (*SP*), illustrates Milton's practice of the use of his sources. The same author, in "The Book of Enoch and *Paradise Lost*" (*Harvard Theo. Rev.*), shows that Milton's indebtedness is greater than has been thought, and he notes a possible further source in "*Macbeth* and *Paradise Lost*" (*SAB*). J. Milton French has discovered "The Powell-Milton Bond" (Harvard) in the Public Record Office and has traced the subsequent course of the transaction. He has examined marginalia in "Milton's Annotated Copy of Gildas" (Harvard) and "Milton's Family Bible" (*PMLA*). William R. Parker, in "Milton and Thomas Young, 1620–1628" (*MLN*), has brought to light evidence bearing on Milton's relation to his tutor. More general topics are treated in Merritt Y. Hughes's "The Christ of *Paradise Regained* and the Renaissance Heroic Tradition" (*SP*), Clarence C. Green's "The Paradox of the Fall in *Paradise Lost*" (*MLN*), and Maurice Kelley's "Milton and Miracles" (*MLN*).

Walter E. Houghton has traced *The Formation of Thomas Fuller's Holy and Profane States* (Harvard). Albert M. Hayes discusses metrical effects in "Counterpoint in Herbert" (*SP*), and Edward L. Parker treats "The Cursus in Sir Thomas Browne" (*PMLA*). Charles E. Ward, in "The Publication and Profits of Dryden's *Virgil*" (*PMLA*), makes a more accurate calculation of Dryden's receipts, and prints "An Unpublished Dryden Letter" (*LTLS*). Ward also gives a brief account of the Chancery suit involving "Andrew Marvell's Widow" (*LTLS*), or alleged widow, and Fred S. Tupper has independently traced the affair in detail in "Mary Palmer, alias Mrs. Andrew Marvell" (*PMLA*).

The seventeenth century drama has come in for increased attention. John Wilcox has discussed *The Relation of Molière to Restoration Comedy*. Philip H. Gray distinguishes between hirelings and actor-sharers in "Lenten Casts and the Nursery: Evidence for the Dating of Certain Restoration Plays" (*PMLA*). Robert G. Noyes examines "Conventions of Song in Restoration Tragedy" (*PMLA*) and "Contemporary Musical Settings of the Songs in Restoration Dramatic Operas" (Harvard). William H. McCabe considers "Music and Dance on a Seventeenth-Century College Stage" (*Musical Qu.*) and collects "Notes on the St. Omers College Theatre [1592–1762]" (*PQ*). Kathleen M. Lynch has gathered data about a little-known figure, "Congreve's Irish Friend, Joseph Keally" (*PMLA*). Edwin E. Williams, "Furetière and Wycherley: 'Le Roman Bourgeois' in Restoration Comedy" (*MLN*), shows that Wycherley's indebtedness is greater than has previously been recognized.

EIGHTEENTH CENTURY

The temper of the eighteenth century gives special point to H. P. Swedenberg's paper on "Rules and English Critics of the Epic" (*SP*). A type which carries over from the previous century is treated by William Sloane, "Some Notes on Character-Writing" (*MLN*), which lists some character-books after 1700, supplementing Gwendolen Murphy's bibliography for the period 1608–1700. "The Character of Daniel Defoe" (*RES*) by John R. Moore is a defense of Defoe against the implications of a now well-known law-suit over civet-cats. Leicester Bradner has discussed "The Composition and Publication of Addison's Latin Poems" (*MP*). Herbert Davis's "Recent Studies of Swift: A Survey" (*Univ. of Toronto Qu.*) and George Sherburn's "Methods in Books about Swift" cover much the same ground.

Paul V. Thompson adds an item to "The Canon of Swift" (*RES*), and two possible sources for Gulliver's Travels are suggested by R. W. Frantz's "Gulliver's 'Cousin Sympson'" (*HLQ*) and Denver E. Baughan's "Swift's Source of the Houyhnhnms" (*ELH*). "Matthew Prior's Cloe and Lisetta" (*MP*) by H. Bunker Wright throws light on Prior's mistresses.

The Poetical Career of Alexander Pope by Robert K. Root is an appreciative critical study. Austin Wright identifies "Joseph Spence as Defender of Pope's Reputation" (*MP*). C. Lennart Carlson writes about "Edward Cave's Club, and Its Project for a Literary Review" (*PQ*). Fred S. Tupper's "Notes on the Life of John Dennis" (*ELH*) are drawn from a Chancery suit of 1686 by Dennis against his mother. William H. Cornog, in "Sir Samuel Garth: A Court Physician of the 18th Century" (*Isis*), presents new facts concerning the physician-poet, and Elizabeth M. Geffen offers interesting new evidence concerning the mystery surrounding "The Parentage of Edmund ('Rag') Smith" (*RES*). Frederick A. Pottle and his associates have compiled an *Index to the Private Papers of James Boswell from Malahide Castle in the Collection of Lt.-Colonel Ralph Heyward Isham,* thus completing an invaluable collection of eighteenth-century documents. R. W. Seitz examines "Some of Goldsmith's Second Thoughts on English History" (*MP*), as revealed in the later version of his *History of England,* and Arthur Friedman notes another instance of Goldsmith's borrowing in "Goldsmith and the Marquis D'Argens" (*MLN*).

W. Powell Jones reconstructs from two sale catalogues and other sources a list of books in "Thomas Gray's Library" (*MP*). Dixon Wecter supplies some information for "The Missing Years in Edmund Burke's Biography" (*PMLA*), and also publishes "Four Letters from George Crabbe to Edmund Burke" (*RES*). The first two volumes of *The Yale Edition of Horace Walpole's Correspondence* have appeared under the editorship of W. S. Lewis and A. Dayle Wallace. Katherine Hornbeak has published a monograph entitled *Richardson's Familiar Letters and the Domestic Conduct Books; Richardson's Æsop.* (Smith). Kenneth C. Slagle's *The English Country Squire as Depicted in English Prose Fiction from 1740 to 1800* is a University of Pennsylvania dissertation. Arthur B. Tourtellot's *Be Loved No More* is, as its subtitle indicates, "The Life and Environment of Fanny Burney." Russell K. Alspach treats "Charlotte Brooke: A Forerunner of the Celtic Renaissance" (*Univ. of Penna. Gen. Mag.*).

Elizabeth P. Stein's monograph, *David Garrick, Dramatist,* is published by the Modern Language Association. Dougald MacMillan has compiled a very valuable record of eighteenth century performances in *Drury Lane Calendar, 1747–1776.* Emmett L. Avery surveys "The Defense and Criticism of Pantomimic Entertainments in the Early Eighteenth Century" (*ELH*) and Mitchell Wells describes "Spectacular Scenic Effects of the Eighteenth-Century Pantomime" (*PQ*). Bibliographical and critical studies of well-known eighteenth-century figures are presented in Bertrand H. Bronson's *Joseph Ritson, Scholar-at-arms,* Lodwick C. Hartley's *William Cowper, Humanitarian,* and Milton O. Percival's *William Blake's Circle of Destiny.* Robert T. Fitzhugh in "Burns at Ellisland" (*MLN*) prints an interesting letter by Robert Ainslie describing an evening spent with the poet. Rather more general topics are treated in Léo P. Courtines' *Bayle's Relations with England and the English;* James M. Osborn, "Thomas Birch and the *General Dictionary* (1734-41)" (*MP*); Richard B. Sewall, "Rousseau's Second Discourse in England from 1755 to 1762" (*PQ*); Stuart G. Brown, "Observations on Hume's Theory of Taste" (*English Studies*); and John W. Draper, "The Theory of the Comic in Eighteenth-Century England" (*JEGP*).

NINETEENTH CENTURY

Space permits only a brief selection of works devoted to the nineteenth century. Robert W. Daniel looks into the circumstances surrounding "The Publication of the *Lyrical Ballads*" (*MLR*). Paul G. Brewster studies "The Influence of the Popular Ballad on Wordsworth's Poetry" (*SP*) and Curtis B. Bradford traces the genesis of "Wordsworth's *White Doe of Rylstone* and Related Poems" (*MP*). Alan L. Strout, in "A Critic of Wordsworth" (*LTLS*), identifies the author of the four appreciative essays on Wordsworth in *Blackwood's* as Chauncey H. Townshend. Among Coleridge studies mention may be made of Lewis Patton's "The Coleridge Canon" (*LTLS*), in which the author rejects certain pieces usually accepted, Donald B. Tuttle's "*Christabel* Sources in Percy's *Reliques* and the Gothic Romance" (*PMLA*), Earl L. Grigg's "The *Friend:* 1809 and 1818 Editions" (*MP*), and Lydia E. Wagner's "Coleridge's Use of Laudanum and Opium, as connected with his interest in contemporary investigations concerning stimulation and sensation" (*Psychoanalytic Rev.*) Leslie N. Broughton offers a memoir and some letters of Coleridge's daughter in *Sara Coleridge and Henry Reed.* Frances Winwar's *Farewell the Banner* is a popular account of Coleridge, Wordsworth, and Dorothy Wordsworth.

Calvin S. Brown interprets "The Musical Structure of De Quincey's Dream-Fugue" (*Musical Qu.*). Wallace C. Brown continues his study of the Near East in two further articles, "Prose Fiction and English Interest in the Near East, 1775–1825" (*PMLA*) and "Robert Southey and English Interest in the Near East" (*ELH*). Robert H. Super offers biographical particulars about "An Unknown Child of Landor's" (*MLN*). Luther A. Brewer has published *My Leigh Hunt Library: The Holograph Letters.* Edward W. Marjarum considers *Byron as Skeptic and Believer.* Mrs. Marie Adami has published a life of *Fanny Keats,* the poet's younger sister. Newman I. White's *The Unextinguished Hearth: Shelley and His Contemporary Critics* gathers together a practically complete collection of contemporary reviews and articles dealing with the poet. Bradford A. Booth shows that "*The Pole:* A Story of Clare Clairmont?" (*ELH*) is wrongly credited to Mary Shelley.

Alan L. Strout, in "'Christopher North' on Tennyson" (*RES*), throws interesting light on the relations of the two men. John A. Sanford describes "The Morgan Library Manuscript of Rossetti's *The Blessed Damozel*" (*SP*), and George Sanderlin traces "The Influence of Milton and Wordsworth on the Early Victorian Sonnet" (*ELH*). Bradford A. Booth gathers together 19 items not hitherto reprinted in *A Cabinet of Gems: Short Stories from the English Annuals.* Annette B. Hopkins measures the popularity of "Mrs. Gaskell in France 1849–1890" (*PMLA*). Franklin P. Rolfe has published a list of "The Dickens Letters in the Huntington Library" (*HLQ*). Albert M. Turner is the author of an exhaustive study entitled *The Making of The Cloister and the Hearth.* Carl J. Weber shows that "Chronology in Hardy's Novels" (*PMLA*) is worked out with careful reference to old calendars. G. K. Zipf presents "New Facts in the Early Life of George Meredith" (Harvard) and E. Arthur Robinson discusses "Meredith's Literary Theory and Science: Realism Versus the Comic Spirit" (*PMLA*). In the field of criticism may be noted Clarence R. Decker, "The Aesthetic Revolt against Naturalism in Victorian Criticism" (*PMLA*)*;* Benjamin E. Lippincott, *Victorian Critics of Democracy: Carlyle, Ruskin, Arnold, Stephen, Maine, Lecky;* Arnold Whitridge, "Matthew Arnold and Sainte-Beuve" (*PMLA*)*;* and Ruth C. Child, "Is Walter Pater an Impressionistic Critic?" (*PMLA*).

CONTEMPORARY LITERATURE

This survey may be closed with a few references on contemporary literature. Flora V. Livingston has issued a *Supplement to Bibliography of the Works of Rudyard Kipling (1927).* W. M. Conacher writes on "The Irish Literary Movement" (*Queen's Quar.*) and Grace Jameson, in "Irish Poets of Today and Blake" (*PMLA*), points out Blake's influence on A. E. and Yeats. Calvin S.

Brown notes an interesting instance of indebtedness in "T. S. Eliot and *Du Dröste*" (*Sewanee Rev.*). Herbert J. Muller traces some "Pathways in Recent Criticism" (*Southern Rev.*), and, finally, F. Cudworth Flint considers among "New Leaders in English Poetry" (*Va. Qu. Rev.*) Wystan H. Auden, Stephen Spender, and Cecil Day Lewis.

GERMANIC LANGUAGES AND LITERATURE

By F. W. Kaufmann

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GENERAL

The rapid decline of humanitarian ideals in Europe, the increasing distortion of historical truth in Germany, will throw a growing responsibility upon the scholars of this country. They must help save those values to the development of which Germany contributed so much in a politically less successful past. Our profession is confronted with the difficult but extremely worthy task of upholding the ideals of truth and humanity derided and threatened with extinction as they are in that country which History seemed to have chosen as a leader on the way towards a better harmony between the nations. Much has been done, but much needs to be done for the fullest understanding of the fundamental values expressed in German literature.

BIBLIOGRAPHY

B. Q. Morgan's *A Critical Bibliography of German Literature in English Translation* (Stanford Univ. Press) which carried through 1917 now appears in a second greatly enlarged edition with critical notes and is carried through the year 1927; a supplement includes the year 1928. The main list contains over 10,800 titles of translations from German into English published in book form from the beginning of printing through the year 1927; the supplement adds about 2,000 additional titles, the list of collections another 577. This bibliography is based on extended research in the Library of Congress and in the British Museum. It is especially valuable in the light of recent tendencies to separate the study of foreign literatures from that of the languages.

H. Hermannsson, *The Sagas of the Kings (Konunga Sögur) and the Mythical-Heroic Sagas (Fornaladar Sögur)* (Islandica, vol. XXVI, Ithaca) supplements two earlier bibliographies which were published in volumes III and V of Islandica and thus greatly facilitates study in a field which has attracted a growing interest during the three decades since the publication of his first bibliography.

PHILOLOGICAL

L. Bloomfield, "Initial (k) in German" (*Lang.*)* redefines the High German shift of West Germanic initial (k-). It is not a shift to an affricate, but only a shift to a combination of stop plus related spirant (kx-, kh-, gh-), and it covers all the Upper German dialects and in the west extends beyond them.

A. Senn, *Middle High German* (W. W. Norton, New York) provides a synopsis of Middle High German accidence, phonology and syntax based on the interpretation of passages from Walther von der Vogelweide, Dietmar von Eist, Der Stricker, the Nibelungenlied, Kudrun, etc. The book serves the double purpose of an introduction to Germanic philology and of a stimulation to further research.

Otto Springer, "Probleme der Bedeutungslehre" (*GR*), discusses new trends in semasiology, as the emphasis on the function of affect in semantic changes, parallel semantic changes, and he especially advocates the field theory which does not compare isolated words, but words in identical fields of expression.

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* Abbreviations: Gr = *Germanic Review;* JEGP = *Journal of English and Germanic Philology;* Lang. = *Language;* MfdU = *Monatschefte für deutschen Unterricht;* PMLA = *Publications of the Modern Language Association of America.*

WOLFRAM AND LESCH

H. J. Weigand in his study on "Die epischen Zeitverhältnisse in den Gralsdichtungen Cretiens und Wolframs" (*PMLA*) comes to the following conclusions: Wolfram arranges the events in the Gawan as well as the Parcival action in consistent chronological order. He combines even distant episodes by inner motivation. He introduces passages with accounts of the time which elapsed. His work gives the impression that he intentionally corrected the confused time relation of his source. Wolfram's treatment of time is so ingenious that it cannot be considered as a mere reflection of his questionable source, Kyot.

L. Koester's *Albrecht Lesch, ein Münchener Meistersinger des 15. Jahrhunderts* (University of Munich) is a meticulous study of personality, metrics, style and influences of 23 songs, 16 of which can definitely be assigned to Lesch. Text, variants, notes and bibliography accompany this study.

LESSING, GOETHE AND OTHERS

Rudolf Kayser, "Das Problem der Aufklarung" (*GR*) traces the ideas of Enlightenment back to the Renaissance ideas of universal culture, autonomy of reason and the Renaissance tendency to educate mankind to these ideas. He follows the relation between the rational and irrational elements through the various stages of the period of Enlightenment and shows how, in the latest stage, a synthesis of these two elements is reached in Lessing's transcendent and Herder's immanent ideal of humanity.

Goethe is the subject of several articles in the A. R. Hohlfeld number of the *Monatshefte für deutschen Unterricht*. Goethe's influence on Romain Rolland is shown by W. Aron. His acquaintance with Russian conditions, literature, art and science is presented by C. M. Purin. In a contribution entitled "Friedrich Heinrich Jacobi und Goethe" H. Rehder assigns to Goethe's friend his proper place in the "German Movement" and finds especially meritorious his endeavor to find a conceptual interpretation of human personality in its development.

A. M. Klett, *Der Streit um "Faust II" seit 1900* (Jenaer Germanistische Forschungen, vol. 33) examines comments, interpretations and evaluations of Goethe's Faust II, which appeared during the last decades in Germany, France, England and America. The presentation of the opinions is preceded by a chronological survey which takes into account the changes in Weltanschauung and their influence on the interpretation, and it is followed by an extensive bibliography.

H. Rehder, "Die Bedeutung des Münsterkreises" (*JEGP*) sees the importance of this intellectual group, to which belonged especially Hamann and Jacobi, in the fact that it carried the spiritual values of sentimentalism and enlightenment over into the 19th century, namely an unpretentious religious passivity and a provincial realism of feeling which was for some time obscured by the universality of classical and Romantic idealism.

SHAKESPEARE IN GERMANY

R. Pascal, *Shakespeare in Germany, 1740–1815* (Cambridge Univ. Press) shows in the introduction and in the extracts of German authors from Gottsched to late Romanticism how the changing attitude towards Shakespeare was part of a changing moral and social outlook, how it was affected successively by the awakening of the middle class from dogma and intellectual control, by its emancipation, its social impotence, its resistance to the doctrines of the French Revolution and its support of the Catholic Church. He also supports earlier critics who questioned Lessing's traditional reputation as Shakespeare's foremost champion in 18th century German literature.

ROMANTIC AND SOCIAL THEMES

L. M. Price, *Inkle and Yarico Album* (Univ. of California Press) traces the literary history of a theme, the noble Indian girl who saved a white man from death and then was sold by him into slavery. He records the appearance of the theme in 45 original works (letter-novels, dramas, ballets) in England, France and Germany from 1657 to 1830. Texts which are not easily accessible are reprinted or given in extensive summaries.

L. W. Kahn, *Social Ideals in German Literature, 1770–1830* (Columbia Univ. Press) treats the problem of social adjustment in the works of storm and stress, classicism and romanticism. He shows the democratic tendencies of the storm and stress period; the humanitarianism of classicism with its universal ideals and its remoteness from the actual problems of social life; the asocial attitude of early romanticism; the growing social-mindedness of later romanticism, and the tendentious treatment of social questions by *Das Junge Deutschland.* He connects the views expressed in the literary movements with those of their contemporary philosophies.

H. J. Weigand, "Das Motiv des Vertrauens in Drama Heinrichs von Kleist" (*MfdU*), sees in the desire for trust and confidence one of the main traits of Kleist's personality. But Kleist was disappointed in trying to break his inner isolation through union in confidence, and in this Weigand sees the catastrophe of Kleist's life. In Kleist's works, this desire becomes the central theme either as a dramatic postulate or as a wish realized in the drama.

H. R. Liedke, *Literary Criticism and Romantic Theory in the Work of Achim von Arnim* (Columbia Univ. Press) investigates on the basis of published and unpublished works as well as his correspondence Arnim's literary relationships, and throws new light on his nationalism and his emotional subjectivism.

POLITICAL AND LITERARY MOVEMENTS

H. F. H. Lenz, *Franz Grillparzer's Political Ideas and Die Jüdin von Toledo,* shows how Grillparzer's reason accepted the dominating political condition of the Restoration period, which his feeling abhorred. The only synthesis he could find was a distant humanitarian ideal, a natural sympathy of mankind which made the state unnecessary. In a second chapter he interprets the characters of *Die Jüdin* as embodiments of rationalistic inhumane self-control on the one hand, and of uncontrolled spontaneity on the other. The synthesis of these opposites he finds in Esther's calm and poised humanity; she is the ideal character who is to be the citizen of the future stateless society with its harmonization of self and outside world, productivity and self-restraint.

R. Ittner, *The Christian Legend in German Literature since Romanticism* (New York Univ., Ottendorfer Germanic Monographs) presents the ever-changing attitude of literary movements toward the Christian legend; he bases his study on an investigation of about 125 major and minor writers.

E. Feise examines the form of Conrad Ferdinand Meyer's "Die Hochzeit des Mönchs" (*MfdU*) and shows how the author combines in a rationally objective form the antithetic elements of his own nature and philosophy. This antithesis appears in the paradoxical theme, the leitmotifs of mercy and justice, the characters and their fate. The same author presents a detailed analysis of the form of *Theodor Storm's Aquis submersus* (*MfdU*).

BRAHM, HAUPTMANN AND OTHERS

M. Newark's *Otto Brahm: The Man and the Critic* (G. E. Stechert, New York) is a detailed study of this best trained theatrical manager who opened, in Germany, the way to the stage for Ibsen, Strindberg, Hauptmann and others. Newark gives a thorough account of his student days; his biographical studies of Schiller, Kleist and Ibsen; his association with Keller, Fontane, Ibsen; his contribution to the rise of Naturalism; his career as a theatrical manager and his ideas of the theater. Thus, this study supplements the literary history of the Naturalistic period in German drama.

F. B. Wahr, "Hauptmann and the Prometheus Symbol" (*MfdU*), studies the significance of this symbol for Hauptmann's storm and stress years. As a sculptor, he tries to imitate Michelangelo in a colossal Cherusker. In his period of transition, he is attracted by the Prometheus theme in Beethoven's symphonies as well as in the works of Aeschylus, Hölderlin and Jean Paul. He shapes the Promethean tragedy of man in Promethidenloos, *Abenteuer meiner Jugend* and the lost drama *Das Erbe des Tiberius*. In later works the Prometheus symbol is replaced by the Eros symbol of Plato's Symposium.

M. McKittrick, "Weltinnigkeit" (*MfdU*), analyzes Ina Seidel's work and finds the fundamental theme in the harmonious relation by which alone life is made productive and happy. Her main theme is the innate consciousness of belonging to the whole of existence, the temporal and the timeless, and the individual's duty of making, according to his endowment, the greatest possible contribution to life.

DIALECT

German and Scandinavian-American relations seem to attract a growing number of scholars. A. P. Kehlenbeck, "Die Mittelniederdeutschen Laute im Williamsburger Platt" (*JEGP*), shows the development of Middle Low German sounds in the contemporary German dialect in Iowa. It differs from Middle Low German mainly by its much richer vowel system in stressed syllables and by a great simplification of unstressed syllables.

E. Haugen examines "Phonological Shifting in American Norwegian" (*Lang.*) and finds that among Norwegian immigrants a gradual transition from language to language takes place and not as sharp a break as might be expected from a comparison of the original Norwegian and the ultimate American.

J. H. Neumann's "Notes on American Yiddish" (*JEGP*) is prefaced by a survey of the development of Yiddish in its various European dialects. Yiddish appeared in America in the early 18th century, but developed as a regular dialect only with the new immigration of Jews since 1880. The written language was first Germanized to such an extent that it differed essentially from the spoken dialect. However, later the opposite tendency set in together with an adaptation to the English environment through the borrowing of English words and idiomatic phrases.

LITERATURE AND CRITICISM

In the field of literature and criticism, Einar Haugen relates the fate of Brandes', the Danish critic's, work in American translations, *Brandes and his American Translators* (*JEGP*). M. E. Spanheimer writes on the German-American author, poet and historian *Heinrich Arnim Rattermann* (Catholic Univ. of America). G. Wurfl, *Lowell's Debt to Goethe* (The Pennsylvania State College Studies) examines all of Lowell's published and unpublished works and letters. He finds continuously increasing appreciation of Goethe as well as occasional adverse criticism. In the second part of the treatise he shows that in his critical theories Lowell adopted a number of Goethe's principles of criticism, took over ideas, adapted them to his needs, and deduced some of his theoretical definitions from specific practical applications.

ROMANCE LANGUAGES AND LITERATURE

By George Irving Dale

Professor, Cornell University

BIBLIOGRAPHIES

The supplement number of the *PMLA* * again contains the most complete list of articles and books in the Romance Language field written by American scholars. French bibliographers include: "L'Année Littéraire Mil Neuf Cent Trente-Sept"

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* Abbreviations: Chi., University of Chicago Press; Col., Columbia University Press; *FR*,

(*MJL*) by A. Schinz; “L’Année Littéraire 1937” (*FR*) by R. Michaud; “American Scholarship in the Field of Eighteenth Century Anglo-French Studies” (*RR*) by D. F. Bond. The Hispanic Society has published a *List of Books Printed 1601–1700 in the Library of the Hispanic Society* by Clara Louise Penney. Further Spanish material: “Datos Sobre la Obra de A. G. Solalinde (1892–1937)” (*HR*) by J. Ortega; *A Guide to Spanish and Spanish-American Literature in Translation* (Los Angeles Junior College) by W. H. Fletcher and W. N. Lyman; “Bibliografía Hispanoamericana” (*RHM*) by the editors; *“Julio Vicuña Cifuentes: Bibliografía”* (*RHM*) by S. Dinamarca. In the field of Italian the following works have been noted: “Anent a Monumental Bibliography of Italian Literature” (*Ital*) by J. G. Fucilla; “Bibliography of Italian Studies in America” (*Ital*) by J. E. Shaw, and “Italian Literature in 1937” (*MLJ*) by O. A. Bontempo.

LINGUISTICS

A new edition has appeared of *A History of the French Language* (Farrar) by U. T. Holmes and A. H. Schutz. Short articles of interest to French scholars include: “Old French *Mangon,* Anglo-Saxon *Mancus,* Late Latin *Mancussus, Mancosus, Mancessus,* etc.” (*PMLA*) by U. T. Holmes, Jr.; “Old French *Esterminals,* a Gem Stone” (*S*) by U. T. Holmes, Jr.; “Old French *Esterminals*” (*S*) by L. Spitzer; “ ‘Lenguages’ dans *Pèlerinage de Charlemagne,* V. 209” (*MLN*) by L. Spitzer; “ ‘Tout craché’ and ‘cher comme crème’ ” (*MLN*) by M. L. Radoff; “Ancien Provençal ‘Sec . . son agre’ ” (*MLN*) by L. Spitzer; “ ‘Faire ravoir les gages’ ” (*MLN*) by Grace Frank, and “ ‘Faire une scarlatine (une typhoïde)’ ” (*RR*) by L. Spitzer. L. Spitzer’s review (*MLN*) of A. Castro’s *Glosarios Latino-españoles de la Edad Media* is extensive and valuable for new material which it contributes:

Activity in the Hispanic field is revealed by the following articles: “On Spanish *muncho,* Portuguese *muito*” (*MLN*) by E. Cross; “Hispanic Etymologies” (*HR*) by C. C. Rice; “Spanish Etymologies” (*HR*) by M. Singleton; “Two Portuguese and Spanish Etymologies” (*HR*) by N. P. Sacks; “The Origin of Portuguese *lho* and *lhe*” (*HR*) by J. E. Iannucci; “The Etymology of Portuguese *deixar,* Spanish *dejar,* Sicilian *dassari*” (*HR*) by C. C. Rice; *“Zebra, cebra”* (*RR*)by R. Menédez Pidal; “Omission of Object Pronoun in Portuguese” (*L*) by E. B. Williams; “Romance Etymologies” (*L*) by L. Spitzer; “The Linguistic Unity of the Spanish-Speaking World—Madrid and Buenos Aires” (*Hisp*) by R. Hilton; “Saber y Querer” (*Hisp*) by J. Martel; “El Ritmo de la Prosa Española—Introducción” (*Hisp*) by R. Brenes-Mesén; “Romance *si* (*se*) from Latin *sit*” (*HR*) by G. G. Nicholson. A dissertation by H. H. Carter, *Paleographical Edition and Study of the Language of a Portion of Codex Alcobacensis 200* (Penn), will appeal to students of Portuguese, as will also *From Latin to Portuguese* (Penn) by E. B. Williams. In the field of Italian attention is called to the following articles: “Re-enforcement of Negation in Early Italian” (*PMLA*) by C. B. Brown; “Lingua Toscana in Bocca Romana” (*Ital*) by A. Camilli; “Observations on Italian *se<sĭt?*” (*Ital*) by A. H. Lograsso; “An Italian Sixteenth Century Manual of Speech in the Making” (*Ital*) by C. P. Merlino, and “A Neapolitan Note” (*L*) by L. F. Solano.

MEDIEVAL FRENCH

A. J. Denomy edited with an introduction and notes *The Old French Lives of Saint Agnes and Other Vernacular Versions of the Middle Ages*

French Review; Harv., Harvard University Press; *Hisp., Hispania; HR, Hispanic Review;* I. Esp., Instituto de las Españas; *Ital., Italica; JHP, Johns Hopkins University Press; L, Language;* LSU, Louisiana State University Press; *MLJ, Modern Language Journal; MLN, Modern Language Notes; MP, Modern Philology;* Penn., Universiy of Pennsylvania Press; *PMLA, Publications of the Modern Language Association of America; PQ, Philological Quarterly;* Prin., Princeton University Press; *RHM, Revista Hispánica Moderna; RR, Romanic Review; S, Speculum;* Smith, Smith College Studies in Modern Languages; *SP, Studies in Philology;* Yale, Yale University Press.

(Harv). Shorter articles of interest include: "Jean Baudoin's Version of the 'Testamenta XII Patriarcharum'" (*MLN*) by R. J. Dean; *"Le Roman de la Rose ou de Guillaume de Dole,* ll. 1330 ff." (*RR*) by Grace Frank; "Further Notes on Gautier de Coinci" (*MP*) by V. F. Koenig; "Sir Oton de Graunson—'Flour of Hem that Make in Fraunce'" (*SP*) by H. Braddy; "Messire Oton de Graunson, Chaucer's Savoyard Friend" (*SP*) by H. Braddy; "The Chronicle of Turpin in Saintonge" (*S*) by C. Meredith-Jones; "The Lapidary of Marbode and a Spanish Adaptation" (*S*) by J. H. Nunemaker; "A New *Perlesvaus* Fragment" (*S*) by W. Roach, and "Criticism of Papal Crusade Policy in Old French and Provençal" (*S*)by P. A. Throop. Jean and Louise Beck published in two volumes *Le Manuscrit du Roi, Fonds Français No. 844 de la Bibliothèque Nationale* (Penn).

FRENCH (1500-1800)

The following two articles deal with the sixteenth century: "D'une Chanson du Bas-Poitou que Rabelais a Pu Connaître" (*RR*) by M. E. Coindreau, and "Rabelais and the Figure of Man as an Inverted Tree" (*PQ*) by Grace P. Smith.

Several long and detailed studies on writers and works of the seventeenth century appeared. Among them are: *Bayle's Relations with England and the English* (Col) by L. P. Courtines; *La Calprenède's 'Faramond': a Study of the Sources, Structure, and Reputation of the Novel* (*JHP*) by S. Pitou, Jr.; *Racine and the 'Art Poétique' of Boileau* (*JHP*) by Sister Marie P. Haley; *Charles Chevillet de Champmeslé, Actor and Dramatist, 1642–1701* (*JHP*) by J. F. Privitera. Among the shorter articles may be mentioned: "The Theatre and the Court at the Close of the Reign of Louis XIV" (*SP*) by C. G. Taylor; "The Stateswoman in Seventeenth-Century French Tragedy" (*MLN*) by M. Baudin; *"Les Amours des Grands Hommes"* of Mlle. Desiardins and *"Le Docteur Amoureux"* (*MLN*) by R. A. Morrissette; "Racan and Molière" (*MLN*) by W. W. Comfort; "An Uncollected Quatrain by Bertaut" (*MLN*) by C. B. Beall; "Théophile de Viau's 'Fragments d'une Histoire Comique' and a Letter of Saint-Evremond's" (*MLN*) by H. S. Jordan; "Die Kunst des Übergangs bei La Fontaine" (*PMLA*) by L. Spitzer; "Light on Molière in 1664 from *Le Second Registre de la Thorillière"* (*PMLA*) by W. L. Schwartz; "The Personality of Boileau" (*FR*) by M. T. Noss, and "Descartes and Poetry" (*RR*) by W. Mc C. Stewart.

Attention is here called to four long studies of the eighteenth century: *The Clandestine Organization and Diffusion of Philosophic Ideas in France from 1700 to 1750* (Prin) by I. O. Wade; *The Doctor in French Drama 1700–1775* (Col) by C. E. Peterson; *The Spirit of Voltaire* (Col) by N. L. Torrey, and *Lamoignon de Malesherbes* (Yale) by J. M. S. Allison. R. B. Sewall discusses "Rousseau's Second Discourse in England from 1755 to 1762" (*PQ*). The following shorter articles refer to this period: "La Critique des Moeurs dans les Oeuvres de Rétif de la Bretonne" (*RR*) by A. Bégué; "Les Scythes et les Tartares dans Voltaire et Quelques-uns de ses Contemporains" (*MLN*) by J. David; "La Mothe le Vayer's 'Vertue des Payens' and Eighteenth-Century Cosmopolitanism" (*MLN*) by A. H. Rowbotham; "Secret Marriage in Eighteenth-Century French Comedy" (*MLN*) by W. C. Holbrook; "Three Unrecorded Rousseau Editions" (*MLN*) by W. C. Holbrook; "J.-A. Naigeon's Analysis of Diderot's 'Rêve de D'Alembert'" (*MLN*) by H. Dieckmann; "La Tragédie Française au XVIIIème Siècle et le Théâtre de Métastase" (*PMLA*) by R. Guiet; "Buffon, Franklin, et deux Académies Américaines" (*RR*) by W. C. Falls; "A Neglected Preromantic: Billardon de Sauvigny" (*RR*) by C. D. Brenner; "Diderot and the Idea of Progress" (*RR*) by L. G. Krakeur, and "Trends in Recent Criticism of the Eighteenth-Century French Theatre" (*RR*) by Edith Melcher.

NINETEENTH CENTURY AND CONTEMPORARY FRENCH

The following studies of book length may be noted: *Louise Colet et ses Amis Littéraires* (Yale) by J. F. Jackson; *The Fortunes of Victor Hugo in England* (Col) by K. W. Hooker; *Catholic Literary France* (Bruce Pub. Co.) by Sister Jerome Keeler; *Proverbs in the Earlier English Drama with Illustrations from Contemporary French Plays* (Harv) by B. J. Whiting; *Goethe in Modern France, with Special Reference to Maurice Barrès, Paul Bourget, and André Gide* (U. of Illinois Press) by Flora E. Ross, and *Théodore Barrière, Dramatist of the Second Empire* (JHP) by E. C. Byam. Many short articles are devoted to this field; they include: "Marcel Proust's Duel" (*MLN*) by D. W. Alden; "A Lost Article by Proust" (*MLN*) by P. Kolb; "The Genesis of Zola's *La Confession de Claude* (*MLN*) by S. R. Weinstein; "'Mortel, Ange et Démon'" (*MLN*) by G. N. Henning; "Arthur Rimbaud's Readings" (*MLN*) by S. A. Rhodes; "An Autograph Letter of Marthurin de Lescure" (*MLN*) by A. Schaffer; "Did Granville Inspire the *Ile des Pingouins?*" (*MLN*) by G. B. Fitch; "Baudelaire and Liszt" (*MLN*) by W. T. Bandy; "Le Théâtre de Th. Gautier" (*PMLA*) R. G. Mahieu; "Matthew Arnold and Sainte-Beuve" (*PMLA*) by A. Whitridge; "The Romantic Debate in the French Daily Press of 1809" (*PMLA*) by D. H. Carnahan; "*Réalisme* and Kindred Words: Their Use as Terms of Literary Criticism in the First Half of the Nineteenth Century" (*PMLA*) by E. B. O. Borgerhoff; "Poetical Affiliations of Gérard de Nerval" (*PMLA*) by S. A. Rhodes; "A Propos des Dernières Oeuvres de Giraudoux" (*FR*) by P. Brodin; "Guillaume Apollinaire" (*FR*) by S. A. Rhodes; "Madame Bovary" (*FR*) by B. G. Carter; "Albert Thibaudet" (*FR*) by J. Matthew; "Early American Criticism of Victor Hugo" (*FR*) by A. J. George; "Joris Karl Huysmans" (*FR*) by M. A. Smith; Réflexions sur le Théâtre des Marionnettes" (*FR*) by M. Dondo; "René Fauchois" (*FR*) by C. Parker; "Armand Godoy and *La Phalange*" (*FR*) by A. H. Krappe; "Ampère and Sainte-Beuve: The Study of an Influence" (*RR*) by M. Cook; "The *Revue Anecdotique* and Baudelaire" (*RR*) by W. T. Bandy; "Maurice Barrès' Collaboration with the Action Française" (*RR*) by W. M. Frohock; "Baudelaire, Balzac et les Correspondances" (*RR*) by R. Michaud; "*Le Voyage* et *L'Albatros:* The First Text" (*RR*) by E. M. Schenck and M. Gilman; "Stendhal et Hazlitt" (*MP*) by R. Vigneron; "The *Guermantes Fête* in *Le Temps Retrouvé*" (*PQ*) by S. A. Rhodes.

ITALIAN

Professor Kenneth McKenzie was honored by having a number of *Italica* dedicated to him, and many of the articles here listed appeared in the dedicatory number. H. D. Austin has contributed: "Dante Notes" (*RR*), "The 'Religion' of the Mountain: A Devastating Torch" (*Ital*), "'That Sweet Fruit' (*Purg.* XXVII, 115)" (*PQ*), and "'The Three Rings' (*Par.* XXXIII, 116)" (*PQ*). Other Dante material include: "The Wrath of Dante" (*S*) by T. G. Bergin; "'Il Giusto Mardoceo' (*Purg.* XVIII, 29)" (*MLN*) by T. Silverstein; "Dante's 'La Petra'" (*PMLA*) by J. B. Fletcher; "La Canzone Marchigiana del *De Vulgari Eloquentia*" (*Ital*) by A. Camilli; "The Literal Meaning of the Unveiling of Beatrice" (*Ital*) by E. H. Wilkins; "Might Dante Have Used a Map of Orosius?" (*Ital*) by M. T. Gnudi; "*Cupid and Psyche* and a Dantean Episode" (*Ital*) by H. L. Norman, and "Dante and Tufail" (*Ital*) by R. Altrocchi.

F. R. Bryson published his work on *The Sixteenth-Century Italian Duel: A Study in Renaissance Social History* (Chi), and A. H. Gilbert his *Machiavelli's 'Prince' and its Forerunners: 'The Prince' as a Typical Book 'de Regimine Principum'* (Duke U. Press). Among shorter articles of interest are: "The Scientific and the Pseudo-Scientific in the Works of Luigi Capuana" (*PMLA*) by H. L. Norman; "A Manuscript Imitation of Tansillo's *Lagrime di San Pietro*"

(*PLMA*) by J. G. Fucilla; "Castiglione and Alfonso de Valdés" (*RR*) by G. Prezzolini; "Some Sixteenth-Century Italian Songs" (*Ital*) by K. McKenzie; "I Critici Inglesi e Americani del De Sanctis" (*Ital*) by J. Rossi; "Studi sulla *Figlia di Jorio*" (*Ital*) by A. C. Vezzetti; "Donne e Muse" (*Ital*) by A. Lipari; "Three Sonnets of the Trecento" (*Ital*) by G. R. Silber; "A Note on Christine de Pisan and Cecco D'Ascoli" (*Ital*) by J. P. Rice; "The Sources of Masuccio's Thirty-Third Novella" (*Ital*) by O. H. Moore; "Tragical-Satirical-Comical: A Note on the History of the Cinquecento *Dramma Satiresco*" (*Ital*) by W. L. Bullock; "Some More Sixteenth-Century Italian Songs" (*Ital*) by C. S. Singleton; "Achille Campanile" (*Ital*) by T. G. Bergin, and "Navagero's *De Cupidine & Hyella*" (*PQ*) by J. G. Fucilla.

SPANISH

The medieval period is well represented by several short studies: "El Realismo en las 'Cantigas de Serrana' de Juan Ruiz, Arcipreste de Hita" (*HR*) by E. Pérez; "Las Legiones Romanas Según la *Primera Crónica General*" (*HR*) by A. G. Solalinde; "A Reconsideration of the Metrical Form of *El Libro de Apolonio*" (*HR*) by H. H. Arnold; "Chroniclers of Medieval Spain" (*HR*) by J. C. Russell; "Un Tratado de Albeiteria de la Epoca de Alfonso X" (*HR*) by G. E. Sachs; "A Detail Concerning Scribal Pecularities Found in MS E of the *Primera Crónica*" (*HR*) by A. B. Franklin; "A Thirteenth-Century Manuscript of the *Primera Partida*" (*S*) by J. L. Herriot.

R. L. Predmore has prepared *An Index to 'Don Quijote,' Including Proper Names and Notable Matters* (Rutgers U. Press). M. Romera-Navarro has prepared a critical edition with notes of *Baltasar Gracián. El Criticón. Tomo Primero.* (Penn). Of interest also is: *Contribución al Estudio del Tema de Don Juan en el Teatro Español* (Smith) by J. Casalduero, and *Santa Teresa in America* (I. Esp.) by Mary E. Hough. Further activity in this field is attested by numerous articles, viz.: "Un Dato sobre la Fecha de *El Anzuelo de Fenisa* de Lope de Vega" (*MLN*) by J. H. Arjona; "Recent Research on Lope de Vega's Sonnets" (*HR*) by W. L. Fichter; "Lope de Vega's *La Dragontea:* Historical and Literary Sources" (*HR*) by A. K. Jameson; "The Dates of Two Plays by Lope de Vega" (*HR*) by S. Griswold Morley and C. Bruerton; "Notes on Lope de Vega's Works in the Spanish Indies" (*HR*) by I. A. Leonard; "The Use of Proverbs as Titles and Motives in the 'Siglo de Oro' Drama: Lope de Vega" (*HR*) by F. C. Hayes; "Two Sonnets Attributed to Lope de Vega" (*HR*) by W. L. Fichter; "The Date of the Comedia *Los Yerros por Amor*" (*HR*) by S. Griswold Morley; "The Versification of *La Selva Confusa*" (*MLN*) by H. W. Hilborn; "An Error in the Text of Alarcón's *Las Paredes Oyen*" (*MLN*) by B. B. Ashcom; "Wages and the Cost of Living in the Picaresque Novel" (*Hisp*) by W. E. Wilson; "Fernando de Basurto's 'Lost Play' on the Martydrom of Santa Engracia" (*HR*) by W. H. Shoemaker; "Una Fuente Española del *Persiles*" (*HR*) by J. Palomo Roberto; "An Incident in the Life of Cortés. Its Possible Source" (*HR*) by E. Neale-Silva; "Notas sobre Libros a Indias" (*HR*) by Sánchez y Escribano; "The Historical Problem of Castilian Mysticism" (*HR*) by O. H. Green; "The Chronology of *Don Quijote,* Part I" (*Hisp*) by G. I. Dale; "A Note on the 'Décima' or 'Espinela'" (*HR*) by Dorothy C. Clarke; "A 'Terminus ante quem' for the Birth of Claramonte" (*HR*) by B. B. Ashcom; "*La Dama de Aragón*" (*HR*) by W. J. Entwistle; "A Note on Lope de Rueda's 'Paso Sexto'" (*HR*) by R. C. Stephenson; "Seventeenth-Century Plays in Madrid from 1808–1818" (*HR*) by Charlotte M. Lorenz; "Don Diego Hurtado de Mendoza and Michele Marullo" (*HR*) by J. P. W. Crawford; "Cancionero de Baena 226 V 2" (*HR*) by A. R. Nkyl; "Algo sobre Gabriel Meurier" (*HR*) by C. B. Bourland.

For the eighteenth century may be noted Arthur Hamilton's "The Journals of the Eighteenth Century in Spain" (*Hisp*). For the nineteenth century we have: "Does Bretón's *Marcela* Stem from *Quijote?*" (*MLN*) by S. E. Howell; "Some Forgotten Works of Pedro Antonio de Alarcón" (*MLN*) by J. Sánchez; "Date of the Composition of *Baltasar* of Avellaneda" (*HR*) also by J. Sánchez; "The Date of *El Tejado de Vidrio*, with a Biographical Note on D. Adelardo López de Ayala" (*HR*) by Mabel M. Harlan; "Opiniones sobre la Versificación en la Lírica de la Avellaneda" (*HR*) by Edith L. Kelly; "Early Spanish Translations of Pushkin" (*HR*) by E. W. Bieghler; "Notas acerca de Bácquer" (*RHM*) by J. A. Balseiro; "Juan Valera's Interest in the Orient" (*HR*) by S. Eoff. Referring to more recent times are the following: "Baroja y la Popularidad" (*Hisp*) by J. A. Balseiro; *"Sónnica la Cortesana* and Present-day Sagunto" (*Hisp*) by J. O. Swain; "Benavente and Campoamor: Is *El Mal que nos Hacen* a Literary Reminiscence?" (*HR*) by R. K. Spaulding, An essay by A. Wills bears the title *España y Unamuno* (I. Esp).

The following articles have reference to Spanish America: "Literature of the Chaco War" (*Hisp*) by W. K. Jones; "Notes on Whitman in Spanish America" (*HR*) by J. E. Englekirk; "Juvencio Valle: Un Poeta Vegetal" (*RHM*) by A. Aldunate Phillips; "Julio Vicuña Cifuentes, Humanista y Poeta (1865–1936)" (*RHM*) by S. Dinamarca, and "A Folk Play Version of the 'Processus Belial' in America (*PMLA*) by T. E. Allison.

FOREIGN INFLUENCE

"Furetière and Wycherley: 'Le Roman Bourgeois' in Restoration Comedy" (*MLN*) by E. E. Williams; "Charles Lamb, Marston and Du Bartas" (*MLN*) by M. P. Tilly; "The Prose *Thèbes* and the *General Estoria:* An Illustration of the Alphonsine Method of Using Source Material" (*HR*) by L. B. Kiddle; "An Italian Sequel to *Les Idées de Madame Aubray*" (*Ital*) by A. L. Mezzacappa; "Wordsworth and the *Traité Elémentaire de Chimie* of Lavoisier" (*PQ*) by G. R. Potter. Two longer studies in this field have also appeared: *Alexandre Dumas Père and Spanish Romantic Drama* (Louisiana State U. Press) by J. A. Thompson, and *The Relation of Molière to Restoration Comedy* (Col) by J. Wilcox.

"Scott and Carducci" (*MLN*) by J. Rossi; "Chaucer and *The Decameron*" (*MLN*) by T. H. McNeal; "The First French Imitation of Tasso's Invocation to the Muse" (*MLN*) by C. B. Beall; "Chaucer's *Troilus and Criseyde* as Romance" (*PMLA*) by K. Young; "Influences of the Lyric Drama of Metastasio on the Spanish Romantic Movement" (*HR*) by A. Coester, and "A Source of *Ibrahim ou L'Illustre Bassa*" (*RR*) by A. Coleman.

Of interest to Romance Language students are: *Studies in Modern Romansh Poetry in the Engadine* (Cambridge, Mass.) by Mildred E. Maxfield; *D'Edmond Spenser à Alan Seeger: Cents Petits Poèmes Anglais. Traduits en Vers Français par Fernand Baldensperger* (*Harv*); "Rokoko als Literarischer Epochenstilin Frankreich" (*SP*) by Helmut Hatzfield, and "Where were the Provençal *Vidas* and *Razos* Written?" (*MP*) by A. H. Schutz.

LATIN LITERATURE

By John W. Spaeth, Jr.

Professor, Wesleyan University

LOEB CLASSICAL LIBRARY

The following volumes have been added to this series in 1938: Celsus' *De Medicina*, vols. 2 and 3, by W. G. Spencer; Livy, vol. 12, by E. T. Sage and A. C. Schlesinger; Plautus, vol.

5, by P. Nixon; Pliny's *Natural History,* vol. 1, by H. Rackham; *Remains of Old Latin,* vol. 3 (containing Lucilius and the Laws of the Twelve Tables), by E. H. Warmington; Varro's *De Lingua Latina,* in 2 volumes, by R. G. Kent.

CLASSICAL LATIN AUTHORS *

In *A.J.P.* 59,301 ff. D. O. Robson contends that the poet Caecilius Statius was not Celtic by origin, as is generally believed, but probably a Samnite settler. G. E. Duckworth discusses the unnamed characters in the plays of Plautus (*C.P.* 33, 267 ff.), and W. H. Juniper believes that a study of verb synonyms furnishes an additional aid to indicate the relative chronology of the plays (*P.A.P.A.* 68, xxxiv). The late Dorothy Paschall defends the manuscript reading *manu . . . nocitum* ("hurt by an evil hand") in Plautus' *Cistellaria* 290 (*C.P.* 33,309 ff.).

W. Allen, Jr. suggests (*C.P.* 33, 167 ff.) as a plausible hypothesis that Lucretius "was a poor plebeian of good stock in search of a patron," and that Memmius, with family and position as well as wealth, met his requirements. "The Sense of the Numinous in Lucretius" (*P.A.P.A.* 68, xxx f.) is a brief discussion by Edith F. Claflin. T. Frank (*A.J.P.* 59, 225 f.) would emend Lucretius 5, 1442 to read *pinibus atque* (possibly *tumque*). In *C.P.* 33, 206 ff. C. Murley restudies Catullus' 44th poem and concludes that the poet was *not* present at Sestius' dinner, and in *T.A.P.A.* 68, 305 ff. he analyzes the structure and proportion of the 64th poem. In the *Tusculan Disputations,* according to Thelma B. DeGraff (*P.A.P.A.* 68, xxxi), Cicero was more interested in details than in principles of Plato's philosophy. M. T. Baley discusses Ciceronian metrics and clausulae (*C.J.* 33, 336 ff.), and F. P. Donnelly points out "Ciceronian triplets" in the Manilian Law (*C.O.* 16, 17 f.). F. Solmsen's article, "Aristotle and Cicero on the Orator's Playing Upon the Feelings" (*C.P.* 33, 390 ff.), devotes a section to the *De Oratore.* The joke in *De Oratore* 2, 249 is explained by T. Frank (*A.J.P.* 59, 226 f.) as involving a colloquial pronunciation of *circumvenire* (= *circunire*).

In "Vergil's Workmanship" (*C.J.* 34, 9 ff.), an essay by C. W. Mendell, the nature of Vergil's literary indebtedness to Ennius, Lucretius, and Catullus is brilliantly elucidated. R. V. Schoder devotes two informative articles (*C.B.* 14, 30 ff. and 47 f.) to explaining Vergil's true knowledge of and deep interest in astronomical phenomena. A. L. Keith finds one great source of Vergil's poetic power in "his close association with the soil" (*C.J.* 33, 523 ff.). J. E. Dunlap (*P.A.P.A.* 68, xxxi f.) furnishes an interpretation of *Georgics* 2, 298–314; W. C. McDermott (*C.J.* 34, 23 ff.) holds that in *Aeneid* 6, 273–281 Vergil "probably drew inspiration from Greek painting"; and L. A. MacKay (*ibid.,* 171 ff.) improves the understanding of *Aeneid* 9, 214 by reading *solita aut si qua fortuna vetabit.* In *A.J.P.* 59, 227 f. T. Frank suggests identifications for the *socer generque* of *Catalepton* 6 and 12 and dates the verses 54 B.C.

Q. Horatius Flaccus: A Check List of Editions in the United States and Canada has been published at Mills College (Oakland, Calif., 1938). E. K. Rand's *A Toast to Horace* (Harvard Univ. Press, 1937) is a delightful little essay in appreciation. Rejecting the traditional allegorical interpretation of *Odes* 1, 14, C. W. Mendell (*C.P.* 33, 145 ff.) believes that Horace is here speaking figuratively about himself. L. A. MacKay (*C.J.* 33, 359 f.) would change *rura* to *tuta* in *Odes* 4, 5, 18; the late J. W. Hewitt, under the title "The Gratitude of Horace to Maecenas" (*P.A.P.A.* 68, xxxii), offers an interpretation of the phrase *memori . . . mente* of *Sermones* 2, 6, 31; and W. H. Alexander (*C.J.* 33, 226 ff.) and R. C. Flickinger (*ibid.,* 295) debate the meaning of *spe longus* in *Ars Poetica*

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* Periodicals are abbreviated as follows: *A.J.A., American Journal of Archaeology; A.J.P., American Journal of Philology; C.B., Classical Bulletin; C.J., Classical Journal; C.O., Classical Outlook; C.P., Classical Philology; C.W., Classical Weekly; J.R.S., Journal of Roman Studies; Spec., Speculum; T.A.P.A., Transactions of the American Philological Association; P.A.P.A., Proceedings of the same.*

172. J. R. Naiden (*C.P.* 33, 92 ff.) proposes a rearrangement of lines 40–44 of the *Panegyricus Messalae*. *T. Livius Narrator: Selections from Livy* (New York: Prentice-Hall, 1938), by H. M. Poteat, is a textbook with annotations more than sprightly. T. Frank (*A.J.P.* 59, 223 f.) finds in Livy's 27th book, in the account of Claudius Nero's exploits at the Metaurus, clear evidence of the historian's deference to Livia.

In *P.A.P.A.* 68, xxxviii f. A. F. Sochatoff writes briefly on Petronius' attitude towards rhetoric. Seneca's Stoic reflections on the subject of "ruler cult" are summarized by Marion Altman (*C.P.* 33, 198 ff.). A. C. Andrews (*C.J.* 34, 143 ff.), on the evidence of the *Letters*, finds the younger Pliny "essentially a conformist," and C. C. Mierow (*P.A.P.A.* 68, xxxvi) presents Tacitus as "primarily interested in biography." G. Highet's extended article on "The Life of Juvenal" (*T.A.P.A.* 68, 480 ff.) aims to provide a reconstruction by utilizing and reconciling the three main sources of evidence. The scholarly interests of Aulus Gellius is the subject of an essay (*C.J.* 33, 280 ff.) by E. Yoder.

LATER LATIN LITERATURE, INCLUDING MEDIEVAL

Mary L. Trowbridge writes on "Folklore in the *Scriptores Historiae Augustae*" (*C.P.* 33, 69 ff.), and T. B. Jones (*P.A.P.A.* 68, xxxiii) finds that the *Vita Taciti* adds little to our knowledge of that emperor's reign. *Epistolae Senecae ad Paulum et Pauli ad Senecam Quae Vocantur* is a monograph by C. W. Barlow (American Academy in Rome, 1938), and in *T.A.P.A.* 68, 26 ff. the same author investigates a sixth-century epitome of Seneca's *De Ira* written by Martin of Braga. E. K. Rand's article, "The New Cassiodorus" (*Spec.* 13, 433 ff.) concerns itself mainly with the text tradition. Several additional studies on patristic and medieval Latin authors have been added to the growing series published by the Catholic University of America at Washington.

"The Manuscripts of the *Schedula* of Theophilus Presbyter" (*Spec.* 13, 86 ff.) is an article by Rozelle P. Johnson. J. A. McGeachy, Jr. (*ibid.*, 309 ff.) discusses the relationship of the tenth-century *Glossarium Salomonis* to the *Liber Glossarum*, and F. J. Carmody points out (*ibid.*, 153 ff.) that the thirteenth-century work *De Bestiis et Aliis Rebus* contains many chapters from the much earlier Latin *Physiologus*. *Medieval Handbooks of Penance* (New York, 1938), by J. T. McNeill and Helena M. Gamer, contains translations of the principal *libri poenitentiales* and additional selections. In *Publications of the Modern Language Association* 53, 624 ff. A. Harbage furnishes a list of 135 extant Anglo-Latin plays written in the 16th and 17th centuries.

LITERARY HISTORY AND CRITICISM

Ghostly Etiquette on the Classical Stage (Cedar Rapids, Ia., 1938) is a dissertation by Ruby M. Hickman. Lily R. Taylor discusses "The Opportunities for Dramatic Performances in the Time of Plautus and Terence" (*T.A.P.A.* 68, 284 ff.) and Ortha L. Wilmer "The Technical Device of Direct Description of Character in Roman Comedy" (*C.P.* 33, 20 ff.). W. E. Gillespie has published a dissertation entitled *Vergil Aratus and Others: The Weather-Sign as a Prophet* (Princeton, 1938). H. V. Canter contributes an article on "Praise of Italy in Classical Authors" (*C.J.* 33, 457 ff.), and Gladys Martin (*ibid.* 34, 86 ff.) considers some literary aspects of the ancient Roman hymns. Eleanor S. Duckett's *The Gateway of the Middle Ages* (Macmillan, 1938) analyzes Latin writings of the sixth century.

In *C.J.* 33, 390 ff. J. W. Draper maintains that the Shakespearean Falstaff is a descendant of the Plautine parasite as well as of the *miles gloriosus*. *Petronius in Italy from the Thirteenth Century to the Present Time* (New York, 1937) is a Columbia University dissertation by A. Rini. J. P. Pritchard writes on "Horace's Influence upon American Criticism" (*T.A.P.A.* 68, 228 ff.). In *Studies in Philology* 35, 25 ff. E. B. Atwood reveals that Ovid should be considered an important secondary source of John Lydgate's *Troy Book.*

TEXT-HISTORY

Dorothy M. Robathan emphasizes the textual importance of a hitherto unreported Florence manuscript of the *Culex* (*A.J.P.* 59, 85 ff.), finds missing folios of the Paris *florilegium* 15155 in a Vatican manuscript (*C.P.* 33, 188 ff.), and tests, by means of an autograph copy of Persius, Boccaccio's accuracy as a scribe (*Spec.* 13, 458 ff.). Adalaide J. Wegner and Nancy M. Miller (*P.A.P.A.* 68, xxxix) summarize a study of some early collection of the manuscripts of Petronius. In the *Bulletin of the New York Public Library* 42, 315 ff. W. Allen, Jr. describes four Corvinus manuscripts (Tacitus, Livy, Cicero, and Didymus) that are extant in the United States, and M. E. Agnew (*ibid.*, 324 ff.) discusses the affiliations of one of them, the Spencer Collection's Livy. G. L. Hendrickson, in the *Yale University Library Gazette* 12, 71 ff., describes the "Marston Juvenals," a collection of manuscripts and editions. In *Spec.* 13, 194 ff. B. L. Ullman adds to the list of manuscripts known to have been collected by Nicholas of Cues in the 15th century.

LANGUAGE AND GRAMMAR

N. W. DeWitt (*C.J.* 33, 450 ff.) writes on the semantics of Latin particles, and W. H. Kirk (*C.P.* 33, 182 ff.) provides a collection and arrangement of passive *verba sentiendi et dicendi* with the declarative infinitive, from Cicero to Suetonius.

EPIGRAPHY AND NUMISMATICS

H. T. Rowell's note, "The Alban Kings of the Forum Augustum" (*P.A.P.A.* 68, xxxvii f.) summarizes an attempt to restore "a fragment of an *elogium* belonging to Aeneas Silvius." In *A.J.P.* 59, 224 f. T. Frank interprets a painted wall sign recently found at Pompeii. *A Numismatic Commentary on the Res Gestae of Augustus* (Edmond, Oklahoma, 1938) is a useful illustrated monograph by Jessie D. Newby.

POLITICAL, SOCIAL, AND ECONOMIC HISTORY

In *C.P.* 33, 283 ff. H. Hill makes a clear distinction between the old *celeres* and the *equites.* W. Allen, Jr. writes with insight on "The Sources of Jugurtha's Influence in the Roman Senate" (*C.P.* 33, 90 ff.), "On the Importance of Young Men in Ciceronian Politics" (*C.J.* 33, 357 f.), and "In Defense of Catiline" (*ibid.*, 34, 70 ff.), claiming for the latter "a sincere effort to help the oppressed and the poor." C. E. Stevens contributes an important discussion of the terminal date of Caesar's command in Gaul (*A.J.P.* 59, 169 ff.), and L. E. Lord tries to determine (*J.R.S.* 28, 19 ff.) the time of Caesar's departure from Alexandria in 47 B.C. In *C.W.* 32, 41 ff. W. C. McDermott treats some aspects of Augustus' career as emperor. T. Frank finds (*A.J.P.* 59, 91 ff.) a connection between Vergil's pageant of heroes in *Aeneid* 6, Augustus' "restoration of the Republic," and the emperor's planning of the portrait gallery of Republican heroes for the Augustan forum. *Greek and Roman Naval Warfare* (Annapolis, 1937) is a detailed study by Vice-Admiral W. L. Rodgers, U.S.N.

M. Stuart's *Portraiture of Claudius: Preliminary Studies* (New York, 1938) is a Columbia University dissertation. M. S. A. Woodside traces the action of eight Batavian cohorts of legion XIV Gemina in the events of 68–69 A.D. (*T.A.P.A.* 68, 277 ff.); O. W. Reinmuth discusses the edicts of the Roman prefects of Egypt (*Aegyptus* 18, 3 ff.); and C. B. Welles interprets a Yale papyrus that deals with certain immunities granted to Roman legionaries in Egypt (*J.R.S.* 28, 41 ff.). G. Downey (*T.A.P.A.* 68, 141 ff.) uses Malalas to explain the treatment accorded Antioch under Severus and Caracalla, and T. B. Jones (*A.J.P.* 59, 338 ff.) shows that the Emperor Carus reigned until December, 283. N. C. Debevoise is the author of *A Political History of Parthia* (Chicago, 1938) and L. Bernstein of *Flavius Josephus: His Time and His Critics* (New York, 1938).

Volume 4 of *An Economic Survey of Ancient Rome* (Baltimore, 1938) contains sections on "Roman Africa" by R. M. Haywood, "Roman Syria" by F. M. Heichelheim, "Roman Greece" by J. A. O. Larsen, and "Roman Asia" by T. R. S. Broughton. Two special studies in related fields are Helen J. Loane's *Industry and Commerce of the City of Rome (50 B.C.–200 A.D.)* (Baltimore, 1938) and Mima Maxey's *Occupations of the Lower Classes in Roman Society* (Chicago, 1938), the latter based on Justinian's *Digest*. S. L. Wallace's *Taxation in Egypt from Augustus to Diocletian* (Oxford Univ. Press, 1938) is an important contribution. An article by A. E. R. Boak in *T.A.P.A.* 68, 212 ff. deals with the organization of gilds in Greco-Roman Egypt.

In the *Library Quarterly* 8, 40 ff. F. Reichmann discusses various aspects of the book trade under the Roman Empire. S. L. Mohler maintains (*T.A.P.A.* 68, 442 ff.) that the so-called *Iuvenes* of the Empire were simply organized groups of schoolboys. *The Clothing of the Ancient Romans* (Baltimore, 1938) is an extensive monograph by Lillian M. Wilson. A. K. Lake discusses (*A.J.A.* 41, 598 ff.) the origin of the Roman house; K. Lehmann-Hartleben (*A.J.P.* 59, 280 ff.) offers a new interpretation of the tradition concerning the so-called *Maeniana* in the Roman Forum; and E. B. T. Spencer (*C.J.* 33, 271 ff.) furnishes a descriptive catalogue of the stones used in the construction and decoration of ancient Rome.

PHILOSOPHY AND RELIGION

P. H. De Lacy (*T.A.P.A.* 68, 318 ff.) emphasizes the contribution made by the Herculanean papyri to our knowledge of Epicurean logic. Aline A. Boyce's article, "The Expiatory Rites of 207 B.C." (*ibid.*, 157 ff.), is an attempt to elucidate a passage in Livy (27, 37). Louise A. Holland (*ibid.*, 428 ff.) discusses the shrine of the *Lares Compitales*. Fuller treatment of special Italian cults is given by Irene Rosenzweig's *Ritual and Cults of Pre-Roman Iguvium* (Baltimore, 1937), a Bryn Mawr dissertation, and by A. E. Gordon's *The Cults of Lanuvium* (Berkeley, Calif., 1938). G. D. Hadzsits (*C.O.* 15, 17 f.) and Jennie M. Churco (*ibid.* 16, 25 f.) contribute interesting essays on the Roman Saturnalia. An illuminating study by J. L. Maline (*C.B.* 14, 37 ff.) explains the origin of the Christian catacombs from motives of economy rather than of secrecy.

GENERAL AND MISCELLANEOUS

Classical and Mediaeval Studies in Honor of Edward Kennard Rand (New York, 1938), edited by L. W. Jones, contains a number of specialized studies. In *C.O.* 15, 25 f. Dorothy P. Latta writes on ancient gems and jewelry. R. A. Ames and H. C. Montgomery (*ibid.* 16, 14 f.) trace briefly the influence of Greek and Roman political thought on the makers of the American Constitution.

A. W. Van Buren's "News Items from Rome" (*A.J.A.* 41, 486 ff. and 42, 407 ff.) provide valuable reports on the latest developments in classical archaeology in Italy. The December number of *Education* (vol. 58), under the editorship of B. L. Ullman, is devoted entirely to articles on the study of the classics. In *C.J.* 34, 166 ff. C. Murley contributes a selective survey of recent articles on the classics found in journals of education. Further bibliographical aid is supplied by the continuing "Abstracts of Articles" in *C.W.* and by the periodic lists of "Classical Articles in Non-Classical Periodicals" in *C.J.* (33, 319 ff., 446 ff., 563 ff.; 34, 123 ff.). J. Stinchcomb has succeeded C. J. Kraemer, Jr. as editor-in-chief of *C.W.*

GREEK LITERATURE

By William Stuart Messer
Professor, Dartmouth College

LOEB CLASSICAL LIBRARY

Accessions of the year 1938, or announced for early publication, are: *Aristotle, Organon* (vol. 1) H. P. Cooke and H. Tredennick; *Aristotle, On the Heavens,* W. K. C. Guthrie;

Demosthenes, Private Orations (vol. 2), A. T. Murray; *Dio Chrysostom* (vol. 2), J. W. Cohoon; *Diodorus Siculus* (vol. 3), C. H. Oldfather; *Greek Mathematical Works* (vol. 1), I. Thomas; *Minor Attic Orators* (vol. 1, containing Antiphon and Andocides), K. J. Maidment; and *Philo* (vol. 8), F. H. Colson.

LANGUAGE, LITERATURE, AND LITERARY CRITICISM [*]

Less space has been devoted to Homeric studies during the year. S. E. Bassett's *Sather Lectures on The Poetry of Homer* have finally been issued as volume 15 of that series (Univ. of Calif. Press). In *Language* (13,306) G. M. Bolling studies "The Past Tense of 'to be' in Homer" for the light it throws on the composition of the *Iliad.* Gilbert Murray's hypothesis that the *Iliad* is a "traditional book" is denied by G. M. Calhoun in "The Poet and the Muses in Homer" (*AJP* 33,157). J. A. Scott in "Odysseus and the Gifts from the Phaeacians" (*CJ* 34,102) speaks of these gifts, carefully hidden by Odysseus and Athena and then not again mentioned, as the "only unused major poetical mechanism in Homer." In "A Prelude to Speech in Homer" H. N. Couch discusses a superiority type of speech prelude in the epic (*TAPA* 68,129). In *Early Greek Elegists* (Harvard Univ. Press, 1938; Martin Classical Lectures, vol. 7) C. M. Bowra sketches the early elegy and its employment as a medium for serious ideas as well as for emotion. E. L. Highbarger in "Theognis and the Persian Wars" (*TAPA* 68, 88) investigates two groups of Theognid poems and fits them into his biographical scheme of Theognis. A new approach to Greek tragedy is suggested by A. C. Mahr in *The Origin of the Greek Tragic Form: A Study of the Early Theater in Attica* (Prentice-Hall, N.Y., 1938), who applies the methods of art criticism and aesthetics to ancient drama. We have the last words on Demosthenes of an authoritative Hellenist, who died in the spring of this year, in C. D. Adams, "Speeches viii and x of the Demosthenic Corpus" (*CP* 33, 129). A notable addition to the Oxford Classical Texts is the entirely new critical edition *Charitonis Aphrodisiensis De Chaerea et Callirhoe Amatoriarum Narrationum Libri Octo* by W. E. Blake (Clarendon Press, N.Y., 1938).

B. E. Perry notes "The Early Greek Capacity for Viewing Things Separately" and its bearing upon certain problems of literary interpretation in *TAPA* (68, 403). On various phases and affinities of the Greek drama the current volume (49) of *HSCP* presents: J. N. Finley, "Euripides and Thucydides"; C. T. Murphy, "Aristophanes and the Art of Rhetoric"; and G. F. Else, "Aristotle on the Beauty of Tragedy." In "Gorgias' Theories of Art" (*CJ* 33, 402) T. S. Duncan elaborates Gorgias' idea that there is no fundamental difference between prose and poetry. S. F. Bonner shows the operation of the Aristotelian mean of style in the Scripta Rhetorica of Dionysius of Halicarnassus (*CP* 33, 257). L. Pearson in "Apollonius of Rhodes and the Old Geographers" (*AJP* 59, 443) traces certain characteristics of Apollonius (*e.g.* of combining geography with mythology) back to Ionian logographers, particularly Hecataeus. F. R. B. Godolphin finds the "Basic Critical Doctrine of Longinus" in the dual nature of literary creation (*TAPA* 68, 172). D. B. Durham writes on "Parody in Achilles Tatius" (*CP* 33, 1). L. A. Post analyses and classifies the "Dramatic Uses of the Greek Imperative" (*AJP* 59, 31). R. Carpenter returns to "The Greek Alphabet Again" in *AJA* (42, 58). Among translations in the modern idiom may be noted: D. Fitts, *One Hundred Poems from the Palatine Anthology* (Norfolk, Conn., 1938); F. Fergusson, *The Electra of Sophocles* (Scott, N.Y., 1938); E. Hamilton, *Three Greek Plays,* Prometheus, Agamemnon, Trojan Women (Norton, N.Y., 1937).

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[*] Abbreviations: *AJA, American Journal of Archaeology; AJP, American Journal of Philology; CJ, Classical Journal; CP, Classical Philology; CW, Classical Weekly; HSCP, Harvard Studies in Classical Philology; TAPA, PAPA, Transactions, Procedings of the American Philological Association.* Titles of books, monographs and periodicals are italicized; those of articles are in quotation marks.

MANUSCRIPTS AND PAPYRI

W. C. Helmbold discusses the text tradition of "The Epigrams of Theocritus" in *CP* (33, 37). Another fasciculus of *Monumenta Palaeographica Vetera* has been published by K. and S. Lake, *Dated Greek Minuscule Mss. to the Year 1200, vii: Mss. in Rome, ii* (Amer. Acad. Arts and Sci., Boston, 1937), devoted to 33 Greek mss. in the Vatican library; scholarly and of excellent mechanical execution. K. W. Clark, *A Descriptive Catalogue of Greek N. T. Mss. in America,* contains details of 256 mss., the oldest being a third century papyrus of a Pauline epistle in the University of Michigan collection (Univ. of Chicago Press, 1937). The same press has published a *Greek Papyrus Reader* by E. J. Goodspeed and E. C. Colwell. In a contribution to *Mélanges Cumont,* "The Homily on the Passion by Melito, Bishop of Sardis," C. Bonner discusses the papyrus containing the homily and the author's views. A. C. Johnson, H. S. Gehman, and E. H. Kase have edited *The J. H. Scheide Biblical Papyri: Ezekiel* (Princeton Univ. Press, 1938). An exemplary edition of a new and important text from a fourth century papyrus, with translation and commentary, is C. Bonner and H. C. Youtie, *The Last Chapters of Enoch in Greek* (Christophers, London, 1937).

HISTORY AND CIVILIZATION

One book on general ancient history has appeared in E. M. Sanford, *The Mediterranean World in Ancient Times* (Ronald Press, N.Y., 1938). A short monograph by A. D. Fraser, *The Potamic System of the Trojan Plain* (Charlottesville, Va., 1937), is a geographical study of the Troad rivers of Homer's time. B. D. Meritt, *Documents on Athenian Tribute* (Harvard Univ. Press, 1937) throws new light on the tribute quota lists of imperial Athens. The same author in "A Note on Kleon's Assessment" (*AJP* 59, 297) continues from 1937 the discussion of the Athenian decree of 425 B.C. H. T. Wade-Gery explains the delay in passing the assessment in 425 and fixes the date of jurymen's pay in "Two Notes on Theopompos, Philippika X" (*AJP* 59, 129). M. F. McGregor gives some interesting details of the fifth century in "The Last Campaign of Kleon and the Athenian Calendar in 422/1" (*AJP* 59, 145). W. Jaeger, *Demosthenes* (Sather Classical Lectures, vol. xiii, Univ. of Calif. Press, 1938) reinterprets the orations of Demosthenes as an investigation of the practical political thought of the Greeks as contrasted with their political theory. H. B. Dunkel, "Was Demosthenes a Panhellenist?" answers the question by declaring that he sought to save Athens as a city-state and the Panhellenic appeal was merely a means to that end (*CP* 33, 291). A. Billheimer in "The Siesachtheia and Inflation" believes that Solon cancelled debts before inflating the currency (*CJ* 33, 471). G. B. Starr discusses "Rhodes and Pergamum, 201–200 B.C." in *CP* (33, 63); M. P. Nilsson, "The New Inscription of the Salaminioi" from the Agora (*AJP* 59, 385); E. R. Goodenough and H. L. Goodhart *The Politics of Philo Judaeus, Practice and Theory,* with a bibliography of Philo (Yale Univ. Press, 1938); G. Downey "Malalas on the History of Antioch under Severus and Caracalla," charging self-contradiction (*TAPA* 68, 141).

D. M. Robinson contributes to *Pauly-Wissowa* an excellent article on *Olynthos,* with a summary of his excavations and two plans. R. J. Bonner and G. Smith, *The Administration of Justice from Homer to Aristotle,* Vol. 2 (Chicago Univ. Press, 1938), one of three volumes on Greek law, treats of Athenian practice and procedure and gives a vivid picture of the Athenian system in action. A. P. Dorjahn and J. P. Cronin weigh the importance, in Athens' eyes, of the reaction of other states to Athenian justice in "Outside Influence on Athenian Courts" (*Philological Quarterly* 17, 18). A strategic and geographical study of the battlefield is found in N. G. L. Hammond, "The Two Battles of Chaeronea, 338 and 86" in *Klio* (31, 186). From the U.S. Naval Institute in Annapolis comes a study in strategy, tactics, and ship design from Salamis to Actium by W. L. Rodgers, *Greek and Roman Naval Warfare* (1937). Ancient military problems are treated by a modern military man in O. L. Spaulding, *Pen and Sword in Greece and Rome* (Princeton Univ. Press, 1937). A. E. R. Boak, "The Organization of Gilds in Greco-Roman Egypt" (*TAPA* 68, 212), quotes gild nomoi from recent papyri showing their essentially Greek character. S. L. Wallace has an article in *AJP* (59, 418) on "Census and Poll-Tax in Ptolemaic Egypt" in the year 220–219. W. L. Westerman, "Enslaved Persons Who Are Free" (*AJP* 59, 1), describes from a Rainer papyrus the conditions of the enslavement of individuals of the free lower class in third century Syria-Phoenicia. H. G. Nickles promises the first edition, based upon the only authoritative text, of the *Continuatio Theophanis* (*TAPA* 68, 221).

PHILOSOPHY AND RELIGION

W. C. Greene in *TAPA* (68, 184) points out the extent and value of the scholia on Plato, a new edition of which he is editing, with preface and indices, as *Scholia Platonica* (American Philological Association Monograph viii). Paul Shorey's lectures on Plato at the University of California are now accessible in vol. 14 of Sather Classical Lectures: *Platonism, Ancient and Modern* (Berkeley, 1938). Lane Cooper has some charming and vigorous translations in *Plato: Phaedrus, Ion, Gorgias, and Symposium*, etc. (Oxford Univ. Press, 1938), with excellent introduction and prefatory notes. C. M. Bowra in "Plato's Epigram on Dion's Death" (*AJP* 59, 394) declares that it shows, if genuine, that Plato's hopes of establishing a philosophers' state at Syracuse were shattered by Dion's death. Other items on Plato are: G. J. Ryan, "Plato's Ideas in the Light of Early Scholasticism" (*TAPA* 68, 334); H. Gauss, *Plato's Conception of Philosophy* (Macmillan, 1937); P. H. Frye, *Plato* (Univ. of Nebraska Studies, vol. 38, 1938); R. E. Witt, *Albinus and the History of Middle Platonism* (Harvard Univ. Press, 1937).

W. A. Oldfather maintains that Socrates did not deliver any real speech of defence, to say nothing of the Apology, and sketches what he thinks did happen (*CW* 31, 203 "Socrates in Court"). I. E. Drabkin in "Notes on the Laws of Motion in Aristotle" (*AJP* 59, 60) discusses Aristotelian physics and dynamics. H. Sanborn suggests, in "A Side-Light on the Katharsis" (*CJ* 33, 322), that Aristotle referred to real pity and real fear instead of ideal emotions. Van Johnson calls attention to the fact that in Aristotle the Sophistic distinction between nomos and physis did not exist ("Aristotle on Nomos," *CJ* 33, 351). H. Fränkel has two notes on Heraclitus: "A Thought Pattern in Heraclitus" (*AJP* 59, 309) and "Heraclitus on the Notion of a Generation" (*AJP* 59, 89). *The Pythagorean Background of the Theory of Recollection* is a doctoral thesis by A. Cameron (Banta, Menasha, Wis., 1938). F. Sayre studies Greek Cynicism in *Diogenes of Sinope* (Furst, Baltimore, 1938). P. H. DeLacy asserts that the Epicureans had a positive logic in "Contributions of the Herculanean Papyri to Our Knowledge of Epicurean Logic" (*TAPA* 68, 318). N. W. DeWitt, "The Later Paideia of Epicurus" (*TAPA* 68, 326), suggests how dogmatism and conversion developed.

G. M. Calhoun in "Homer's Gods" (*TAPA* 68, 11) emphasizes the extreme complexity of the poet's conceptions of deities. P. Duffy in *A Comparative Study of the Religion of the Iliad and Odyssey* (Diss., Univ. of Chicago Libraries, 1937) points out that the poet's ideas of Olympus and its gods are uniform throughout his works. F. Solmsen, "The Erinys in Aischylos' *Septem*" (*TAPA* 68, 197), sees in this play a jurisdictional dispute between the old chthonic religion and the new moral Olympian divinities. E. C. Tappert discusses "A Greek Hagiologic Ms. in Philadelphia" (*TAPA* 68, 264), which contains records of Egyptian monachism. S. Dow writes on "The Egyptian Cults in Athens" in the *Harvard Theological Review* (30, 183).

ART AND ARCHAEOLOGY

The excavations in the Athenian Agora during the campaign of 1937 are reported in *Hesperia,* vol. 7, nos. 1 and 3, with articles by T. L. Shear, W. S. Ferguson, B. D. Meritt, M. MacLaren, and others. T. L. Shear, in charge of the excavations, adds another survey to the series of preliminary publications of the more important discoveries, with illustrations, in "Latter Part of the 1937 Campaign in the Athenian Agora" (*AJA* 42, 1). The continuing excavations on the north slope of the Acropolis are described and discussed by O. Broneer and E. Schweigert in *Hesperia,* vol. 7, no. 2. S. Dow has studied at length the inscriptions honoring the Athenian councillors in *Prytaneis* (*Hesperia, Supplement* 1). The progress on the American dig at Corinth is recorded by C. H. Morgan in "Excavations at Corinth" (*AJA* 41,539 and 42,362). A sound and accurate, but needlessly elaborate, publication of materials not particularly novel is found in *Prosymna, The Helladic Settlement Preceding the Argive Heraeum; With a Chapter on the Jewelry and Ornaments* by C. W. and E. P. Blegen (Macmillan, N.Y., 1937). "Excavations at Troy 1937" by C. W. Blegen (*AJA* 41, 553) gives commendably prompt publication of this interesting campaign and states the director's conviction that the sixth settlement came to its end before the close of the 14th century.

The finds at Antioch are recorded in: R. Stillwell, *Antioch-on-the-Orontes,* II, *The Excavations,* 1933–1936 (Princeton Univ. Press, 1938), including the neighboring site of Daphne; W. A. Campbell, "The Fourth and Fifth Seasons of Excavation at Antioch-on-the-Orontes" (*AJA* 42, 205) emphasizing the extraordinary wealth of mosaics which show the change of style from Roman to Byzantine; E. C. Schenck, "The Hermes Mosaic from Antioch" (*AJA* 41, 388), showing Hermes with the infant Dionysus in his arms. D. M. Robinson and others continue the publication of the *Excavations at Olynthos* with Part viii, "The Hellenic House," and ix, "The Chalcidic Mint and the Excavation Coins Found in 1928–34" (Johns Hopkins Press, 1938). Coins found on this site, declared forgeries by Gaebler, have been pronounced genuine bv W. Schwabacher in "Die Münzen der Olynthos-Grabung" (*AJA* 42, 70). In *AJA* 42, 261 J. F. Daniel reports on the bronze age remains found in excavating at Kourion in Cyprus in 1937. E. C. Olsen in "An Interpretation of the Hephaisteion Reliefs" (*AJA* 42, 276) finds in them further argument for this identification of the "Theseum." Uniform with former fascicules is *Corpus Vasorum Antiquorum U.S.A.,* fasc. 6: "The Robinson Collection, Baltimore," fasc. 2 by D. M. Robinson and S. E. Freeman (Harvard Univ. Press, 1937).

MISCELLANEOUS

Two books of honorific studies have appeared: *Quantulacumque: Studies Presented to Kirsopp Lake by Pupils, Colleagues, and Friends* (Christophers, London, 1937); and *Classical and Mediaeval Studies in Honor of E. K. Rand,* edited by L. W. Jones, containing papers by Lane Cooper on Aristotle and R. M. Geer on Plutarch, among others. In the field of Greek numismatics, S. P. Noe has brought out a second edition of *A Bibliography of Greek Coin Hoards* (American Numismatic Society, N.Y., 1937), containing 87 pages additional of new material; E. T. Newell, *Royal Greek Portrait Coins* and P. S. Szego, *Collecting Greek Coins* (Wayte Raymond, N.Y., 1937) are popular manuals. C. M. Bowra finds that Xenophanes' attitude toward athletic renown was probably not revolutionary but common among sixth century artistocrats ("Xenophanes and the Olympic Games," *AJP* 59, 257). W. W. Hyde defines the nature of "The Pentathlum Jump" (*AJP* 59, 405). H. D. Brackett gives intelligent advice on the aims of the elementary Greek course in college in "Some Observations on the Teaching of Elementary Greek" (*CJ* 34, 31).

SEMITIC LANGUAGES AND LITERATURES

By Cyrus H. Gordon

Lecturer, Smith College

GENERAL

Great strides were made in Semitic studies during 1938. The year witnessed the definitive publication of the Lachish ostraca (Hebrew, *ca.* 589 B.C.), a detailed report on the epoch-making Mari tablets (Babylonian, 20th century B.C.) and considerable progress in the interpretation of Ugaritic (the language of the alphabetic Semitic texts from Ras Shamra, 14th century B.C.). America's rôle is growing more and more significant partly because of internal development and partly as a result of the sharp decline in Germany and Italy.

The reader is referred to the following quarterlies for current articles, reports and reviews: *American Journal of Semitic Languages, Bulletin of the American Schools of Oriental Research* (*BASOR*), *Jewish Quarterly Review, Journal of the American Oriental Society* (*JAOS*), *Journal of Biblical Literature* (*JBL*).

The Haverford Symposium on Archaeology and the Bible (edited by E. Grant, Haverford College and American Schools of Oriental Research, 245 pp., $2) is a splendid account of the status of ancient Near East studies. Each chapter is written by a different specialist: Syro-Palestinian Archaeology (Wm. F. Albright), Old Testament (G. A. Barton), New Testament (H. J. Cadbury), History of Writing (J. W. Flight), Anatolian and Hittite Studies (A. Goetze), Mesopotamia (T. J. Meek), Arabia (J. A. Montgomery), Egypt (J. A. Wilson). Professor Grant, who is to be heartily thanked and congratulated for this most useful volume, adds his copies and interpretations of ten Old Babylonian contracts.

According to "A Revolution in the Chronology of Ancient Western Asia" (by Albright, *BASOR* 69, pp. 18–21) all dates prior to *ca.* 1500 B.C. in Babylonian history must be reduced by about a century and a half. This brings the beginning of the Early Dynastic Age down to *ca.* 3000 B.C., Sargon of Accad to *ca.* 2500 B.C. and the First Dynasty of Babylon to *ca.* 1970–1670 B.C. The subject of absolute chronology for the ancient periods is unfortunately quite complicated. The problem will be clarified to some extent when Professor A. Poebel publishes the Khorsabad list of Assyrian kings.

IRAN

The leading history book of the year is N. C. Debevoise, *A Political History of Parthia* (Oriental Institute, University of Chicago, $3). This is the first work since 1873 devoted entirely to Parthian history. It incorporates new evidence from China and India as well as from contemporary cuneiform tablets. Especially important are the coins found in stratified excavations. The book vividly portrays Parthia without the usual Roman bias.

IRAQ

S. N. Kramer has reconstructed the Sumerian myth of *Gilgamesh and the Huluppu-Tree* (*Assyriological Studies* IX, Oriental Institute; $1.50). The chapter on "Problems in the Translation of Sumerian" adds to the usefulness of the volume.

In *The Dialect of the Nuzu Tablets* (John Hopkins Univ., 50 pp.; $1—reprinted from *Orientalia*), C. H. Gordon describes a "barbaric" Accadian dialect of the 15th century B.C. with a view to facilitating the interpretation of the Nuzu tablets and the writing of a comparative grammar of the Accadian dialects. Light is also shed on the enigmatic Hurrian language by the discussions of about 200 Hurrian loanwords.

G. Loud and C. B. Altman have produced an archaeological volume entitled *Khorsabad II: The Citadel and the Town* (OIP [Oriental Institute Publications] XL; xxii, 110 pp., 91 pls., 12 figs.; $40). The new architectural inscriptions are deciphered by T. Jacobsen.

ARABIA

Professor P. K. Hitti has built up a strong center of Islamic studies at Princeton University. It is gratifying to report that two of his disciples have brought out creditable publications during 1938. N. A. Faris, *The Antiquities of South Arabia* (Princeton Oriental Texts III; 119 pp., $2.50) is essentially a translation from the 8th book of Al-Hamdani's *Al-Iklil.* This volume is quite well written and contains important data on South Arabia. E. J. Jurji, *Illumination in Islamic Mysticism* (POT IV; 130 pp., $2.50) is mainly a translation of Abu-Al-Mawahib Al-Shadhili's *Qawanin Hikam Al-Ishraq.* This book is a welcome contribution to the study of Sufism. Both Faris and Jurji make extensive use of Arabic manuscripts in the Garrett Collection deposited in the Princeton University Library. *The Descriptive Catalog of the Garrett Collection of Arabic Manuscripts* (POT V) is about to appear under the joint authorship of Hitti, Faris and B. Abd-Al-Malik. Cf. also N. P. Britton, *A Study of Some Early Islamic Textiles in the Museum of Fine Arts,* Boston.

SYRIA-PALESTINE

The year was particularly fruitful in this branch of the subject. American scholars were the first to improve upon H. Torczyner's *editio princeps* of the Lachish ostraca (see the articles of Albright, H. L. Ginsberg and Gordon in *BASOR* nos. 70–72). These documents are the Hebrew letters exchanged among the Judaean military leaders during Nebuchadnezzar's devastating campaign that culminated in the Exile and in the destruction of the Temple in 587 B.C. The Lachish ostraca are vitally important for the study of the last days of Judah and for the history of the Hebrew language. However, their full value cannot be appreciated until scholars have bridged the remaining gaps in the reading of these texts. The difficulty lies mostly in the faintness of the ink and to some degree in the terseness of the style.

Americans have also been active in the study of Ugaritic. Albright has demonstrated (among many other things) that the Old Testament parallels, occurring as they do in the later books, do not go back to Hebrew contacts with the Canaanites (Phoenicians) in the 2nd millennium B.C. but in the period 800–500 B.C., when Phoenician influence was at its height (*BASOR* 70, pp. 18–24). Ginsberg points out further Old Testament parallels and gives convincing interpretations of two new letters (*JBL,* pp. 209–213; *BASOR* 72).

A. Goetze makes an exhaustive study of the Ugaritic verbal system (*JAOS,* pp. 266–309). Z. Harris analyzes the causative conjugation (*JAOS,* pp. 103–111) and gives a valuable *mise-au-point* entitled "Ras Shamra: Canaanite Civilization and Language" (Smithsonian Report for 1937, pp. 47–502, 4 pls.). Gordon shows that Terah, the father of Abraham, is not mentioned in the tablets from Ugarit (= Ras Shamra) and that *nkr,* far from being the goddess Nikkal, is the technical term "to obtain (remarry?) a wife" found in Hosea 3:2 (*JBL,* pp. 407–410). The Ugarit documents constitute the greatest addition to Semitic literature discovered in the twentieth century. They consist mostly of mythological texts and reveal an unsuspected early Canaanite literature. While the script now offers almost no difficulty, much remains to be done with the literal meaning and exegesis.

Professor J. Obermann is doing pioneer work in the field of archaic Syro-Palestinian epigraphy (±1500 B.C.). *The Archaic Inscriptions from Lachish* (Supplement to *JAOS;* 48 pp., 3 pls., 5 figs.) are described as being written in "a non-Phoenician system of the North Semitic alphabet." See also Obermann's "Wind, Water and Light in an Archaic Inscription from Shechem" (*JBL,* pp. 239–253). The decipherment of these early texts and even the identification of their characters are not yet established. Accordingly, it is too soon to evaluate Obermann's interesting results.

A. Sperber adds to our knowledge of historical Hebrew grammar in a monograph called *Hebrew Based on Greek and Latin Transliterations* (reprinted from the *Hebrew Union College Annual* XII–XIII, pp. 103–274).

M. Burrows makes an exhaustive study of Hebrew marriage customs in *The Basis of Israelite Marriage* (*American Oriental Series;* 72 pp.; $1). Burrows recognizes the complexity of the problem and cautiously avoids unwarranted conclusions. This monograph will probably remain the standard work on the subject for many years.

Archaeology has not lagged behind the investigation of literary sources. *The Excavation of Tell Beit Mirsim II : The Bronze Age* (*Annual of the American Schools of Oriental Research* XVII; xxiv, 96 pp., 56 pls.; $2.50) is another important contribution by Albright, whose unsurpassed mastery of the material is evident on every page. P. L. O. Guy and R. M. Engberg have published their final report on *Megiddo Tombs* (OIP XXXIII) dating from the Chalcolithic period to the Iron Age. In addition to the description of the tombs, the book contains a chapter on burial customs and a discussion of the pottery and other artifacts. Grant and G. E. Wright have brought out *Ain Shems Excavations* IV : *Pottery,* Haverford.

EGYPT

The Oriental Institute has published four Egyptological volumes: A. de Buck, *The Egyptian Coffin Texts* II : *Texts of Spells 76–163* (OIP XLIX; xiv, 405 pp.; $8); *The Mastaba of Mereruka* I (OIP XXXI; xxiii, 10 pp., 103 pls., 8 plans; $40) and II (OIP XXXIX; xiii, 116 pls., 7 plans; $50); *Temple of Abydos* III (published jointly with the Egypt Exploration Society). It is also interesting to note that several fascicles of the journal *Mizraïm* (edited by N. Reich, Dropsie College, Philadelphia) appeared during the year.

INDO-EUROPEAN LINGUISTICS

George S. Lane

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THE LINGUISTIC SOCIETY OF AMERICA

The fourteenth annual meeting of the Linguistic Society of America was held in Chicago, Dec. 27–28, 1937 in conjunction with the Modern Language Association of America, with an informal gathering of members in the East in conjunction with the American Philological Association in Philadelphia, Dec. 30.

The Society records the deaths of three Indo-Europeanists from among its members. The dean of American Indo-Iranian scholarship, Professor Emeritus A. V. Williams Jackson of Columbia University, died Aug. 8, 1937 at the age of 75. Professor Jackson was eminent not only for his linguistic studies touching all fields of Indo-European, from English to Indic, but also for his research on Persia, Zoroastrianism and Manichaeism. Students of Indo-European linguistics in America and in Europe will recall particularly his textbook, *An Avesta Grammar and Reader,* a standard for instruction in the field for two generations. Professor Jackson's biography and a bibliography of his printed works will be found in the *Journal of the American Oriental Society,* vol. 58 (1938). Another inestimable loss to the Linguistic Society and to Germanic Linguistics was the accidental death, in August, of Professor Eduard Prokosch of Yale University. The untimely death of Professor Prokosch leaves still unpublished his long awaited *Comparative Germanic Grammar* which was due to appear shortly in the William Dwight Whitney Linguistic Series of Yale University. Dorothy May Paschall, instructor in Latin at Texas State College for Women died Feb. 1, 1938 at the age of 30. Miss Paschall's brilliance and unusual initiative and energy promised steady productivity in the field of Latin language.

The Linguistic Institute was held again at Ann Arbor, Mich. June 27–Aug. 19, under the joint auspices of the Linguistic Society and the University of Michigan. Although the Institute continues as an integral part of the University Summer session, it has been able more and more to keep its separate identity. As usual the faculty of the University was drawn upon to furnish the instructional staff with the support of specialists from outside institutions, as, for example, Professors Bloomfield and Keniston from Chicago, Sturtevant of Yale, and Kent of Pennsylvania.

THE LINGUISTIC ATLAS

The first section of the *Linguistic Atlas of the United States and Canada* is now ready for publication. This consists of the *Linguistic Atlas of New England I* and an introductory volume, *Handbook of the Linguistic Geography of New England I,* by Hans Kurath, director and editor, with the collaboration of M. L. Hanley, Bernard Bloch, G. S. Lowman, Jr. and M. L. Hansen. This tremendous investigation, sponsored by the American Council of Learned Societies and assisted by universities and colleges of New England, was initiated by members of the Linguistic Society of America and of the Modern Language Association of America. The Research Group of the MLA devoted thought and discussion to the investigation as early as 1921, but it was not until 1929 that the project was actually launched. The field work was begun in 1931 and completed in 1933. Volumes I and II of the New England atlas have been fully edited and volume III will be completed in another year. The publication of this atlas will, no doubt, as the editors confidently expect, "open up a wide field of research not only in American English but in the whole field of the Cultural history of America." Interested persons should see the prospectus issued by Brown University, September, 1938.

GENERAL CONTRIBUTIONS

E. A. Speiser's article "The Pitfalls of Polarity" (*Lang.* 14: 187–202), though written by a Semitist dealing with Semitic phenomena, is of significance to the Indo-Europeanist as well because of the tendency of some scholars to apply the "polarity-thesis" to Indo-European developments. That semantics is an ever increasing field of investigation for the linguist is shown by O. Springer's "Probleme der Bedeutungslehre" (*Gmc. Rev.* 13: 159–74). More especially for the consumption of Indo-Europeanists are the following: J. A. Kerns and B. Schwartz, "Structural Types of the Indo-European Medio-Passive Endings: R and T Semes" (*Lang.* 13: 263–78), a descriptive study of the various formations of the medio-passive-deponent inflection in the various Indo-European languages, with some discussion of their subsequent development or decay. There is no attempt at a discussion of their origin nor at a semantic or syntactic analysis. J. Phelps, "Indo-European Initial *sl*" (*Lang.* 13: 279–84), treats of the relation of initial *sl-* in relation to *stl-* in the various Indo-European languages. The theory is that the former is more original and that the latter arose by post-Indo-European insertion of *t*. The article shows, for the most part, complete disregard for well established etymological groupings and little or no consideration of phonetic law. Inherited words, loanwords, and onomatopoeic formations are cited without distinction from all periods of the languages utilized. Miss E. F. Claflin, "The Indo-European Middle Ending *-r*" (*Lang.* 14: 1–9), argues for the antiquity of IE *r*-forms with middle meaning, making use of Hittite and Tocharian evidence in support of the Indo-European and Italo-Celtic phenomena.

INDO-IRANIAN

Professor R. G. Kent has continued his Old Persian researches with three studies. The first, "Old Persian Jottings" (*JAOS* 58: 324–30), is a supplement to his article "The Present Status of Old Persian Studies" (*JAOS* 56: 208 ff., cf. The American Year Book, 1936 p. 819). The other two are textual studies: "A Restoration of Order by Darius" (*JAOS* 58: 112–21), supplementing the same scholar's previous attempt to restore this fragmentary cuneiform inscription (*JAOS* 54: 40–50) in the light of some additional material; and "The Daiva-Inscription of Xerxes" (*Lang.* 13: 292–305), with plates, transcription, translation and commentary, of a cuneiform inscription found by the expedition of the Oriental Institute of the University of Chicago at Persepolis in 1935. New light is thrown upon the language by way of new words and of new forms from known stems. C. J. Ogden digs into the difficult field of Middle Persian Phonology in his article "Three Turfan Pahlavi Etymologies: *ḥpšyrd,* *'škrwst,* *mnwḥmyd*" (*JAOS* 58: 331-3).

HITTITE AND TOCHARIAN

Hittite continues to be the most fruitful field of research, due again, it is true, largely to the contributions of one scholar, E. H. Sturtevant. Professor Sturtevant has given us the following articles: "Value of the *be*-sign in Hittite" (*Lang.* 13: 285–91), on the phonetic interpretation of a disputed cuneiform character; "Source of the Hittite *hi*-Conjugation" with a supplementary note by G. Bechtel "The Meaning of the Hittite *hi*-Conjugation" (*Lang.* 14: 10–19), maintains the Indo-European perfect as the origin; "Hittite Evidence against Fall-Grade *o*" (*Lang.* 14: 104–11), shows that Hittite can not be counted on to support the hypothesis of two qualities of *o* in Indo-European. Miss E. A. Hahn continues her synthetic studies with "Hittite *kwis kwis*" (*TAPA* 68: 388–402), a study of the Indo-European indefinite stem as regards its use and origin in Hittite. The findings apply also to Latin.

The historical maze of the Tocharian vocalism is attacked by G. S. Lane in "Problems of Tocharian Phonology" (*Lang.* 14: 20–38). An attempt is made at a comparative study of the vowels of the two dialects, A and B, with some discussion of the Indo-European origins and proposal of a few new etymologies.

GREEK AND ITALIC

W. Petersen in "The Evidence for Schwa Secundum in Latin and Greek" (*Lang.* 14: 39–60) denies the existence of the reduced vowel of the short *e*-series. G. M. Bolling's "The Past Tense of 'to be' in Homer" (*Lang.* 13: 306–11) analyzes in detail the 3rd person singular of the verb in the Homeric dialect. C. E. Finch, "Initial Indo-European *y* in Greek" (*TAPA* 68: 120–2) attempts to explain the two Greek developments, the rough breathing and ζ, through sandhi, by elaboration on a suggestion already made by Hirt. E. H. Sturtevant in "The Greek Smooth Breathing" (*TAPA* 68: 112–9) gives a valuable historical survey of the polemic literature regarding the phonetic value to be attributed to the spiritus lenis sign. G. M. Bolling in his "Oscan Notes" (*Lang.* 14: 203–4) interprets anew some passages in the Curse of Vibia. Not primarily intended for the linguist, but certainly appreciated by every student of Italic, is Professor Kent's translation of Varro, *De Lingua Latina* (Loeb Classical Series Library, no. 333–4), the earliest extant work on Latin grammar.

GERMANIC

The Germanists have again been particularly busy. H. L. Smith presents some etymological and semantic remarks on certain disputed Germanic words in "Some Germanic Developments of IE **geneu* and **gen-*,***genē-* (*Lang.* 14: 95–103). A. M. Sturtevant continues his notes on various Gothic and Old Norse problems. His article "Concerning Gothic Intransitive Verbs" (*AJPh.* 59: 460–70), is a discussion primarily of some transitive verbs showing normally intransitive formation in Germanic; the "Gothic Notes" (*MLN* 53: 120–2) are chiefly syntactic; "The Future Auxiliaries Gothic *haban* and Old Norse *munu*" (*MLN* 53: 423–5) consists of semantic remarks. In "An Etymology of the Old Norse Word *Fljóo* 'woman'" (*Scand. St. and Notes* 15: 26–8), Professor Sturtevant would derive the form as a poetic "kenning" from the root of *fljót* 'fleet', etc. Other syntactic remarks on Gothic are M. Metlen, "Absolute Construction in the Gothic Bible" (*PMLA* 34: 631–44), and G. K. Andersen, "Some Notes on Gothic Syntax" (*Gmc. Rev.* 13: 130–8). Problems of Old English paleography are attacked by H. Meritt in "Possible Elliptical Compounds in Old English Glosses" (*AJPh* 59: 209–17). Professor Bloomfield gives a new phonemic interpretation of the High German consonant mutation in "Initial [k] in German" (*Lang.* 14: 178–86). W. F. Twaddell in "A Note on Old High German Umlaut" (*Monatshefte für Deutschen Unterricht* 30: 177–81) attempts to account for the lack of orthographical indication of umlaut in Old High Germany.

BALTO-SLAVIC AND CELTIC

Professor Senn presents two studies in Balto-Slavic: "Observations on German Loanwords in Lithuanian" (*Monatshefte für Deutschen Unterricht* 30: 190–5) and "Polish Influence upon Lithuanian" (*Lang.* 14: 148–53). For Celtic, attention is called to the birth of a new periodical the *Celtic Digest,* issued monthly, except summer, by the Celtic Society of Columbia University, first issue March 1938, editor Ben Greenwald.

PERIODICAL PUBLICATIONS

American Historical Review
1430 East Franklin Street, Richmond, Va.
American Journal of Philology
Johns Hopkins Press, Baltimore, Md.
American Journal of Semitic Languages and Literatures
5750 Ellis Ave., Chicago.
American Spectator
683 Broadway, New York City.
American Speech
Columbia University Press, New York City.
Atlantic Monthly
8 Arlington Street, Boston.
Celtic Digest
Columbia University, New York City.
Classical Philology
5750 Ellis Ave., Chicago.
Commonweal (The)
386 Fourth Ave., New York City.
Editor and Publisher
Times Sq., New York City
Germanic Review
Columbia University Press, New York City.
Harper's Magazine
49 East 33d. Street, New York City.
Hispanic Review
University of Pennsylvania Press, Philadelphia.
Journal of American History
175 Fifth Ave., New York City.
Journal of English and Germanic Philology
University of Illinois, Urbana, Ill.
Journal of Modern History
5750 Ellis Ave., Chicago.
Lance
2512 East 5th. Street, Dayton, O.
Language
University of Pennsylvania, Philadelphia.
Library Journal
62 West 45th. Street, New York City.
Library Quarterly
5750 Ellis Ave., Chicago.
Literary America
175 Fifth Ave., New York City.
Literary Digest
233 Fourth Ave., New York City.
Literary World
12 Mount Morris Park W., New York City.
Magazine
512 California Bank Building, Beverly Hills, Calif.
Modern Philology
5750 Ellis Ave., Chicago.
New England Quarterly
Plimpton Press, Norwood, Mass.
North American Review
597 Madison Ave., New York City.

Philological Quarterly
University of Iowa, Iowa City, Ia.

Poetry
232 East Erie Street, Chicago.

Poetry Digest
220 West 42nd. Street, New York City.

Poetry Review
280 Madison Ave., New York City.

Poet's Magazine
101 West 44th. Street, New York City.

Romanic Review
Columbia University Press, New York City.

Saturday Review of Literature
25 West 45th. Street, New York City.

Scribner's Magazine
570 Lexington Ave., New York City.

Words
808 South Vermont Ave., Los Angeles, Calif.

Yale Literary Magazine
Yale Station, New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Academy of Arts and Letters, 633 W. 155th St., New York City.

American Academy of Arts and Sciences, 28 Newbury St., Boston, Mass.

American Booksellers Assn., 35 E. 20th Street, New York City.

American Council of Learned Societies, 907 Fifteenth St., N.W., Washington, D.C.

American Library Assn., 520 N. Michigan Ave., Chicago, Ill.

American Newspaper Guild, 1560 Broadway, New York City.

American Newspaper Publishers' Assn., 370 Lexington Ave., New York City.

American Philosophical Assn., Brown University, Providence, R.I.

American Philosophical Society, 104 S. Fifth St., Philadelphia, Pa.

American Society of Composers, Authors and Publishers, 30 Rockefeller Plaza, New York City.

American Society of Newspaper Editors, Times-Union Building, Rochester, N.Y.

Association of National Advertisers, 330 W. 42nd Street, New York City.

Associated Press, 383 Madison Ave., New York City.

Bibliographical Society of America, Grosvenor Library, Buffalo, N.Y.

Book Publishers Bureau, 347 Fifth Ave., New York City.

Foreign Press Publicity Service, 258 Fifth Ave., New York City.

German Club, 5 E. 66th St., New York City.

National Editorial Assn., 134 N. La Salle St., Chicago, Ill.

National Insitute of Arts and Letters, 633 W. 155th St., New York City.

National Publishers' Assn., 232 Madison Ave., New York City.

Newspaper Advertising Executives Assn., 1708 Mariner Tower, Milwaukee, Wis.

United Press Assn., 220 E. 42nd Street, New York City.

U. S. Publishers Assn., Inc., 386 Fourth Ave., New York City.

AMERICAN LITERATURE

American Dialect Society, Bascom Hall, Madison, Wis.

Authors Guild, 6 East 39th St., New York City.

Authors League of America, Inc., 6 East 39th St., New York City.

Catholic Writers Guild of America, 128 W. 71st St., New York City.

National Assn. for American Speech, 174 W. 76th Street, New York City.

Simplified Spelling Board, Lake Placid Club, Essex County, N.Y.

LANGUAGE AND LITERATURE

American Classical League, New York University, Washington Square East, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

American Oriental Society, Trinity College, Hartford, Conn.

American Philological Assn., Haverford College, Haverford, Pa.

Dante Alighieri Society of New York, 626 Fifth Ave., New York City.

Dickens American Fellowship, 280 Madison Ave., New York City.

Modern Language Assn. of America, 100 Washington Square East, New York City.

DIVISION XXVI
THE ARTS

ARCHAEOLOGY

By Ralph V. D. Magoffin

Professor, New York University

AMERICA

Virginia.—The largest human skull ever found was discovered in 1938 among Indian remains.

New Mexico.—Not far from Bernalillo on a bluff overlooking the Rio Grande valley was the town of Tiguex, now known as Kuaua. Gordon Vivian of the Santa Fe School has found priceless pictorial records in many painted plasterings. Pictures and reproductions in the *kiva* verify Villagra's description of the pueblos in which he and his army were quartered in 1598.

Maya.—Kidder of the Carnegie Institution has found pottery brought to Mayan cities by Toltecs from Teotihuacan, of two dates, 700 or 950 A.D., for these trading expeditions are under advisement due to the two schools of Mayan chronology. Tree rings may furnish the settling argument.

Guatemala.—E. L. Hewett continues his work at Quirigua and in Guatemala conserving the achievements of America's past. Zaculeu, a ruin of Huehuetenango, is a fine seven stepped pyramid now cleared for future study. A pyramid near Guatemala City, as now appears, was rebuilt eight times by the Mayas.

ASIA MINOR

Troy.—Semple and Blegen of the University of Cincinnati expedition have completed a very successful season of work on the Acropolis, and have made a careful topographic and stratigraphic tabulation of finds. Worthy of special notice are: wall foundations of Troy I to Troy VI; a cobblestone pavement of Troy IIa; a floor deposit which seems to give the level of the final phase of Troy II. In this deposit were many artifacts of terra cotta, bone, and stone, and a hoard of gold beads, pins, and wire. The East Tower, flanking the gateway to the fortification wall of Troy I; the east wall, and its tower, of Troy VI; and unexplained stone-paved circles and an apsidal altar of Troy VIII, make a splendid year of results.

Tarsus.—Miss Goldman found at Goezlue Kule a fine lot of pottery some pieces of which help to prove her earlier contention that there is a combination of Central Anatolian vase shapes with north Syrian ornamentation which is particularly characteristic of Tarsus. Seals and bullae were not found below the 6.50 m. level, but deeper down were found many stamps in clay with linear patterns.

THE ALPHABET

Ullman of Chicago is still at work on the history of the alphabet. It was invented, he says, before 2000 B.C. The Sinai Semitic inscriptions of 1900–1800 B.C. are alphabetic, modeled on Egyptian hieroglyphic and based on the acrophonic principle. The Ras Shamra cuneiform alphabet of the XIV century was based on a developed Semitic alphabet. Phoenician inscriptions of the XIII century have a fully developed script. The Greeks got their alphabet from the Phoenicians before 1000 B.C. The Carian, Lydian, Lycian, Phrygian, and Etruscan alphabets are derived from the earlier, so-called Western, Greek alphabet. Mommsen said, as has been held to since 1850, that the Romans based their alphabet on the Greek of Cumae; but Ullman says it was taken from the proto-Etruscan alphabet.

EGYPT

Diorite.—The source of diorite, found and described by Keeper R. Engelbach of the Department of Antiquities, is near the Sudanese border, on a ridge near the route between the oases Dunqul and Nakhlai. A cartouche containing the name of Cheops was found on a rock pillar near the ancient quarries.

ATHENS

Agora.—Shear had a fine season of excavation. Including those previously found, the total of lamps of terra cotta is now over 3,000. Three of the 500 most interesting ones found in 1938 are the figure of a woman in a garment resembling a mummy wrapping, and with six toes on each foot; another has the shape of a crouching boar; the third represents a seated Demeter with a *mystica vannus Iacchi* (Vergil, Georg. I, 166), or sacred winnowing basket, on her lap. Additional *ostraka,* 60 this year, bring the total thus far to 247. Particularly interesting is one, the first ballot thus far found bearing the name of Alcibiades, son of Kleinias (the elder Alcibiades). More coins to the number of 10,325 were found during the season. One is a gold daric which was probably lost by one of the Persian invaders of 480 B.C. The total of coins thus far is over 70,000. Probably the best of the many pieces of sculpture discovered in the year is a life size head of a woman, in Pentelic marble, which is to be regarded as an original of the school of Praxiteles.

Acropolis.—On the north slope were found some 130 fragmentary inscriptions of importance. One records the erection of the Athena Promachos statue; another has building accounts of the Erechtheion. Of the finds of sculpture were some fragments of archaic statues and a piece of a Parthenon metope. Most important are the contents of one of the several wells discovered. In it were V century bronzes, terra cotta figurines, and bits of marble sculpture. One terra cotta vessel has on it the painted letters DEMOSION and a small owl, the official seal of the city. It is clearly a public standard measure. Most interesting was the find of 190 *ostraka,* mostly written on the round bases of cylices. All bore the name of Themistocles (son of Neokles). The inscriptions are in fine letters and seem to be part of a lot prepared by political opponents, or "ward heelers," for distribution to the public.

Stolen Apollo Returned. — The greatest archaeological excitement of the year is the return to Athens of the statue of an archaic Apollo, smuggled out of Greece in 1932 by some peasants who, in an illicit dig 20 miles from Athens, had found the statue, had broken it into ten pieces, and then shipped it to Paris. The peasants were all arrested, fined, and imprisoned. The Paris dealer was condemned by default to eight years in prison and a fine of 40,000,000 drachmas. He was caught in Paris and jailed, but could not be extradited. When released, he decided to give the statue back to Greece through the Greek Legation in Paris. The statue is now in the National Museum in Athens, and is being put together.

Fortifications.—Work was practically completed on the ancient city defense walls from the Hill of the Nymphs over the Pnyx to the Hill of the Muses. The quantities of pottery prove the date of the rebuilding of the defences of Athens, the Piraeus, and the Long Walls of 307–306. One can now better appreciate the triumph of the Athenians in capturing the city in 286. A rectangular tower on the Hill of the Muses and a round tower on the Pnyx give us the white poros stone used as well as the dimensions of the fortifications.

OTHER AREAS IN GREECE

Corinth.—Most of the Agora of the ancient city has been cleared during the two preceding seasons. The best finds are: a II century A.D. head of Serapis and rectangular shaft graves of the late Geometric period, about half of which were unrifled. In them were found jewelry and pottery, the best of the latter being a tall *krater* on a high flaring foot.

Lion of Amphipolis.—Completely restored now is this lion which closely resembles in pose the famed lion of Chaeronea. It is, however, a much better work of art than the older one. It faces the city of Amphipolis and the ancient bridge over the Strymon river.

Coin Hoards.—Indispensable is the new edition of *A Bibliography of Greek Coin Hoards,* by Sydney P. Noe which has just appeared as No. 78 in *Numismatic Notes and Monographs.*

IRAQ

Tell-Agrab.—Frankfort of the Oriental Institute's Iraq Expedition has found a miniature (three inches high) copper chariot drawn by four asses, and with it many fragments of painted pottery, all dating about 3000 B.C.

ITALY

Rome.—Another section of the *Ara Pacis* has been recovered. It has two *flamines* on the front, and on the reverse, two thirds of the finest festoon yet found. A fragment found with the heads of two lictors now brings to seven the figures of lictors on the north side of this famous monument. Part of the small amphitheatre, the *Ludus Magnus,* which served for rehearsals, has been found east of the Great Amphitheatre.

Imperial Portraits.—Dr. Dorothy K. Hill of the Walters Art Gallery has compared two bronze heads in the Baltimore gallery with others found in 1880 in Rome, and now in the Conservatori Museum, and shown that five male members of the Julio-Claudian family are represented.

Palatine.—From inscriptions and pictorial elements on coins of Alexander Severus, D. F. Brown of New York University shows that the temple of Jupiter Ultor was erected by Severus on the same site as the earlier temple of Sol Invictus, built by the emperor Eligabalus. A problem of the topography of the Palatine is solved by the emendation of *aedes Orcus* to *Adonea hortus.*

Arch of Constantine.—Sculptured representations of African Moors are recognized by H. P. L'Orange by the arrows in their headdresses. He also recognizes the gesture of Constantine, *i. e.,* the raised right hand of Sol Invictus, as evidence of the oriental identification of the emperor and the Sun.

Legionary Standards.—Monaci has made a splendid contribution to our none too good information about Roman military standards. In one square of the attic of the Arch of Constantine near the Colosseum in Rome are seven legionary standards. Monaci argues that the first is a standard of the Praetorian Guard; the second the standard of the Third Cyrenaic legion (the first legion to salute Vespasian as emperor); the others: the standard of the I Minervia, the XIV Gemina Martia Victrix, the XXII Primigenia, the XX Valeria Victrix, and the XXX Ulpia Victrix.

Ostia.—In the "room of the philosophers" in the *thermae* discovered in 1937, Calza found a large enthroned stucco figure of Serapis and an entirely preserved floor mosaic, 35 feet in diameter, representing a hunting scene.

Fasti Ostienses.—Guido Calza has discovered some of the *Fasti,* or Calendar, which De Grassi has used with success to explain the two Dacian wars of Trajan. A great deal of new historical evidence is now available.

Turin.—The Porta Palatina has been restored and now stands clear in its majesty.

Aosta.—All later buildings have been cleared away from about the theatre. A fine Roman bridge at St. Vincent, near Aosta, of the I century A. D. has been cleared and restored.

Trieste.—The most important excavation done in recent years in northeast Italy was that of the Roman theatre here. It was opened to the public on April 21. The building dates from the time of Trajan. The tiers of seats and the semi-circular wall are almost entirely preserved. Among the statues found are: an Athena wearing an aegis, an Asklepios, a Silenus, an Apollo, a splendid bust of a Roman official (probably the donor of the building), and two pieces of a lovely copy of the Knidian Aphrodite.

PALESTINE

Tell ed-Duweir.—The chemical treatment of a blade of a copper dagger found in 1934, now in the Palestine museum in Jerusalem, brought to light four signs with writing of a script having affinities with the Serabit el-Khadim script found in Sinai. The dagger blades were found with objects belonging to an intact burial of the Nyksos period, and therefore can not be later than 1600 B. C.

Megiddo.—The Oriental Institute closed a season of very profitable excavation. Objects were recovered from strata VIII to XVII (c. 2000 B. C.). Red burnished pottery was found in many houses; a new city plan appeared in stratum XI (1700–1650 B. C.); an ivory box was found with an inscription dating in the reign of Rameses III. Beneath the floor of the Second Palace were found two cosmetic jars of serpentine and haematite, ornamented with gold, a gold bowl shaped like a shell, a perfect gold mesh chain, a whet-stone with a gold cap, lapis lazuli cylinder seals, and an electrum ring set with a fine scarab. From the Fifth Palace came 200 pieces of ivory, called the "most comprehensive example of XII century B. C. 'Phoenician' art yet known." Among the pieces are an incised plaque with captive and offerings being presented to a seated ruler, a beautifully decorated ivory comb, and a gaming board inlaid with gold.

Israelitish Conquest.—Albright finds evidence at Lachish and Megiddo that the destruction of the latest Canaanite town by Israel was at Lachish in 1231 B.C. This precedes Merneptah's defeat of Israel by one year, as recorded of the Israel stela.

Personal Seals.—At Tell Beit Mirsim (Kirieth-sepher) Albright has discovered two stamped jar handles with identical inscriptions: "Belonging to Eliakim, steward of Jokin." The Biblical spelling of Jokin is Jehoiachin (II Kings, 24). The Wellcome people found in 1935 a seal inscription reading "Belonging to Gedaliah, the one who is over the House" (*i.e.,* governor of the Palace). The reverse of the seal shows the marks of a papyrus roll, showing it was the personal seal of the friend of Jeremiah (Jer. 39:14, 40:1 ff.). He was made governor of Judah by Nebuchadnezzar after the destruction of Jerusalem in 586 B.C.

Tell el-Kheleifi.—The American School in Jerusalem still holds that the Tell is the site of ancient Ezion-Geber. Late excavation shows that three things in particular were done here: (1) smelting of copper; (2) manufacture of copper implements, spear heads, fish hooks, nails, fibulae, etc.; and (3) shipbuilding and sea trade. Some of the finds include nets from yarn, ropes, baskets, mats and pottery of all kinds, including crucibles and manufactured beads.

SYRIA

Ras Shamra.—Excavations of the year have been important for the history of the ancient Near East, and for Shamra during the III and II millennia B.C. Five intact tombs of the time of the Hyksos invasion of Egypt were found. In a sanctuary was discovered a bronze battle ax covered with gold and relief decoration. The cutting edge of the ax was made of *forged* iron, this being the oldest example of forged iron preceding the dagger from the tomb of Tutankhamen. Schaeffer has found a jeweler's scales and weights below the floor of a shop. The weights are based on a talent of 3,000 shekels, the early Hebrew standard. In Sumeria and Babylonia the talent was of 3,600 shekels.

Tepe Gawra.—In stratum XVII has just been found the best collection yet known of transitional pottery which bridges the gap between the Halafian and Obeidian periods. The Obeid Age lasted at Gawra from the beginning of level XIX to the end of XII, dating between the middle of the V millennium through the first quarter of the IV. The Obeid was preceded by the Halaf civilization, and was followed by the northern counterpart of the Uruk culture. The site of Gawra is about 14 miles north of modern Mosul. Discoveries of many temple foundations, and a *tholos* just discovered in stratum XVII, prove that Gawra was a religious center of importance.

Antioch on the Orontes.—Excavations during the last three years have uncovered a very fine lot of mosaics. In these pavements it is thought the change of style from Roman to Byzantine times will be found.

MUSEUMS

Boston Museum of Fine Arts.—A Greco Etruscan gold fibula with a "token" team of mules as the bow of the safety pin has come as a recent acquisition to the museum. The writer remembers when Densmore Curtis, deceased, of the American School in Rome, came into possession of the piece. Other new acquisitions of classical interest is a Greek trumpet of ivory and bronze in 13 sections, with bronze rings at the joints. It is, apparently, the only Greek trumpet known. There is also a splendid tomb portrait relief of three members of the Roman family Gessii. Very interesting is the "nodus" style of Fausta's coiffure, a style recommended in Ovid's *Ars Amatoria* for round faces.

Metropolitan Museum of Art.—In the room of new acquisitions is to be found a bronze hydria, 16⅜ inches high, 13¼ inches wide, with soldered, not riveted, handles. The handles, foot, and mouth of the hydria are beautifully decorated. The finest bit of decoration, at the base of the vertical handle is of a winged female seizing a deer. She wears both chiton and himation, has a spiral silver bracelet on each forearm, and her hair is done in a chignon knot. The female figure is certainly Artemis. Another splendid new accession is a piece of portraiture on a funerary monument of a Cominia Tyche who lived through the Flavian period. Best of all are the "Ganymede Jewels." This is a set of Greek jewelry of marvelous workmanship and beauty—a necklace, two bracelets, a finger ring, four brooches, and a pair of earrings with pendants. These pendants are two gold eagles with outspread wings, each eagle grasping in its talons a tiny solid gold figure of Ganymede. These statuettes have given the name, the "Ganymede Jewels," to the new accession.

Walters Art Gallery, Baltimore.—The appearance in November of the first number of *The Journal of the Walters Art Gallery* (Vol. I, 1938) has been warmly and widely welcomed. It is splendid in format and striking in illustrations.

British Museum.—Many fine Greek coins have come to the museum during the year. Among them are a drachm of Capua, with Oscan, not Latin, letters, struck during its defection from Rome to Hannibal, a tetradrachm of Alabanoda in Caria, struck while Antiochus the Great was in control, and on which is the name, Antioch, a silver stater of Panticapeum of about 300 B.C., with a head of Dionysus, and another tetradrachm of Syracuse with the Arethusa head swathed in a *saccus*.

National Museum, Athens.—Three gold cups found by peasants near Kalamata in southwest Peloponnesus, have come to the museum. One resembles a cup from the Fourth Shaft Grave of Mycenae. These newly found cups date between 1550 and 1450 B.C., and must have come from a royal burial.

NECROLOGY

Rev. Romain F. Butin, S.M., was killed in an automobile accident in Maryland, on Dec. 8, 1937. While Acting Director of the American School in Jerusalem, 1926–1927, he worked on the Proto-Siniatic inscriptions just discovered at Sinai by the

Harvard expedition. He was one of the most learned and the best loved of the members of the staff at the Catholic University of America.

James L. Starkey was killed by Arab bandits near Hebron in Palestine on January 10, 1938. Mr. Starkey worked with the British School, the Michigan Expedition in Egypt, and with Sir Flinders Petrie in Palestine. His best piece of excavation was at Tell ed-Duweir, the Biblical Lachish. Of his many important finds, that of the Hebrew *ostraka* of the VI century B.C., was the most sensational.

Henry Rushton Fairclough, professor emeritus of Latin at Stanford University, died Feb. 12, 1938. He was visiting professor at the American Academy in Rome, 1910–1911; the author of many books, translator of Vergil in the Loeb series, and a member of many learned societies. He was decorated by four governments for his work during the World War.

PAINTING

By Florence Seville Berryman

The American Federation of Arts

TREASURY DEPARTMENT'S SECTION OF FINE ARTS

The social value of the United States Government's art program for the production and distribution of work by living American artists keeps this program and its results in the forefront of all constructive forces in American painting.

The Treasury Department announced in October, 1938 that the Procurement Division's Section of Painting and Sculpture, which was established by executive order four years earlier, has been made a permanent unit and re-named Section of Fine Arts by an order issued by Admiral C. J. Peoples, director of procurement, and approved by Secretary Morgenthau. Largely responsible for this long-hoped-for development is Edward Bruce, chief of the Section, who with his associates made it one of the most successful minor experiments of the New Deal. Under the Section since its establishment, about one per cent of the cost of each Federal building has been earmarked for decoration and used to pay for works by American artists chosen through anonymous competitions. The great majority of these works have been mural paintings. Between 200 and 300 Federal buildings throughout the United States have been decorated.

It will be recalled that there are two Government art projects in charge of the Treasury's Section of Fine Arts; the chief difference is in their financing. In the first instance, work is paid for by specific allotment for each building; in the second, called the Treasury Relief Art Project, mural paintings and sculpture placed in Federal buildings for which there is no allotment for decoration, are paid for by Works Progress Administration funds.

A total of 429 projects, both painting and sculpture, had been completed by June 30, 1938. More than half of these projects, 243, were completed during the first six months of 1938, and 190 of them were mural projects. Each project included from one to 12 or more mural paintings.*

Federal buildings in 41 States and the District of Columbia are embellished by these works of art. The District of Columbia leads with the largest number of projects, 48; New York and California, 45 projects each, and Pennsylvania third with 33. By the middle of October, the number of completed projects, both painting and sculpture, had increased to more than 300.

The Section of Fine Arts supplied the following figures. To mid-October, 79 competitions had been held, in which 4,824 artists had competed, and had submitted a total of 10,334 sketches. The Treasury had let 375 artists' contracts to the amount of $537,164. The number of artists still under contract was 192, with an additional sum of $364,135 obligated for their work.

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* Complete lists of Treasury Department Projects to June 30, 1938 were published in *The Art Digest,* March 1 and July 1, 1938 numbers.

The Section further reported that there has been an increase in the employment of painters and in the quality of designs submitted. Its practical policy of making one large anonymous competition serve as the basis of a number of appointments, was whole-heartedly endorsed by the artists, whose interest in the competitions was thereby greatly increased.

The Treasury Relief Art Project is to be liquidated as soon as present assignments are completed. By June 30, 1938, 85 murals for Federal buildings had been completed and installed under this Project, and of the 10,215 easel paintings executed, 2,287 had been allocated.

The National Competition for two murals in the Hall of the Judiciary and the Hall of Legislation of the United States Building at the New York World's Fair, which was held during the summer, offered the Section's greatest single opportunity to date, to American mural painters, and one of the most difficult problems. Each mural commission was worth $5,000, and the wall space to be decorated is more than 7,000 square feet in size: approximately 37 feet wide and 105 feet high. When it was announced in September that, out of 500 entrants, George Harding of Philadelphia had won the wall space of the Hall of Legislation and James Owen Mahoney that of the Hall of Justice, there was a storm of protest, directed chiefly against the Mahoney award. It was contended by various persons, that Mr. Mahoney had not been original in his design even if the obvious influences cited were subconscious, and that he had not maintained the logic of scale very competently dealt with by Mr. Harding and by a runner-up, Kindred McLeary.

The Treasury Department early in the summer, installed the largest project completed in the southwest, a series of six large murals by William P. Henderson in the U. S. Court House in Santa Fe, N.M. These paintings represent panoramic landscapes of the State instead of the obvious themes suggested by their location.

FEDERAL ART PROJECT

The Federal Art Project, the United States Government's third enterprise in this field, is under the Works Progress Administration, with relief emphasized. Compared to the Treasury Projects, the Federal Art Project is of staggering extent. A cumulative report to Oct. 20, 1938, contains astronomical figures. The Federal Art Project is now employing 4,600 artists in 39 States, the District of Columbia and New York City. Tax-supported public institutions to the number of 13,348 have received allocations of 106,452 works by Project artists in the fields of painting, sculpture and graphic art during the past three years, an average of 21 works of creative art for each artist employed in the fine arts. Nearly 900,000 items in other media have also been allocated. In addition, there are another 25,000 works circulating in traveling exhibitions throughout the country, and waiting for allocations.

Since August, 1935, 1,150 mural paintings and mosaics have been completed and installed in public institutions throughout the country; many more murals are in progress; and sketches are being prepared for a great many others. Public institutions which request these murals, such as hospitals, airports, schools, court houses, colleges, etc., defray the material costs.

The largest number of creative artists employed on the Project, something over 900, are working on easel paintings; 42,406 oil paintings and water colors by these artists have been allocated to schools, libraries, etc.

The *Index of American Design*, one of the two most highly praised phases of the Federal Art Project, has employed the services of between 400 and 500 artists at various times, and functions in 32 States. Of more than 10,000 plates already made, about 8,000 are water color paintings. The objective of the *Index* is to compile a complete pictorial record of American decorative art and objects of utility with a definite design value, from the earliest days of colonization to the last quarter of the 19th century. Furniture, textiles, ceramics, glass, silver and many other objects are the subject matter of the paintings in the *Index*. Numerous exhibitions of plates from the *Index* have been held—20 shows in the country's largest department stores, such as Marshall Field's in Chicago and R. H. Macy Company in New York (which exhibited 500 paintings in July). Leading museums of the country have also displayed groups from the *Index*. This record of painting in the Federal Art Project is but a small portion of its report, which covers all the branches of the Project—sculpture, graphic arts, applied arts, teaching, community centers and various others.

The Federal Art Project is constantly exhibiting the work of its artists in all media; between 400 and 500 different exhibitions have been on view, about half of them traveling shows, the others displays of local works. In August and September, for instance, the Art Institute of Chicago presented a Federal Art show of nearly 400 items, by Chicago artists, nearly half of which were paintings—murals, oils and water colors.

The Project continues to be characterized by diversity, not only in media and ability of artists, but in subject matter, treatment and public reaction. A feather in the Project's cap is the award to Edward Laning, one of its mural painters, of a commission to paint four panels for the third floor lobby of the New York Public Library (main building). For 40 years this space has been coveted by American mural painters; Whistler and Sargent were among those once expected to receive this prize opportunity. Sketches by Mr. Laning have already been approved; the panels will be 9 by 16 feet in dimension, and will represent "The Story of the Recorded Word," from the Mosaic tablets to the Mergenthaler linotype machine.

One of the largest frescoes ever undertaken by the Federal Art Project was completed in October, in the Mount Vernon (N.Y.) Public Library, by Louise Brann. The painting circles an entire room 30 x 34 feet, covering 1,080 square feet, and is done on mortar. It comprises allegorical representations of education, occupation and recreation, inspired, the artist said, by Gothic tapestries.

Although the Federal Art Project's history during the year seemed to be less tempestuous, controversy was not entirely dead. To mention one example, Philip Evergood's mural, "The Story of Richmond Hill," installed in that branch of the Queensborough Public Library, New York, created a furore among the descendants of the founders who were depicted in the painting. Present citizens of Richmond Hill considered these "portraits" of their ancestors as "repulsive and grotesque," among other terms of oppobrium. But the board of trustees approved, and the mural remains.

CONGRESS AND THE ARTS

In view of the fact that painting would of all the spatial arts probably be most extensively affected by the establishment of a Federal bureau (as painting is in fact affected by the Section of Fine Arts and the Federal Art Project), mention must be made of a nation-wide struggle to obtain a Federal art bureau under a Secretary belonging to the President's Cabinet, which took place during the first six months of 1938 and, though not successful, focussed the attention of the public on the issue.

The chronic sentiment in some circles for a Federal Department of Fine Arts flared again in 1937 and 1938 through several bills introduced into Congress. Representative William I. Sirovich of New York introduced the first of them in January, 1937. His "Resolution 79" provided for the establishment of an executive "Department of Science, Art and Literature" with a Secretary in the Cabinet and its own building in the District of Columbia. Backed by the Administration, and strongly supported by musicians and actors, this bill was given a hearing before the Committee on Patents.

The Federal Arts Bill (H.R.9102) to provide a permanent Bureau of Fine Arts in Washington, sponsored by Representative John M. Coffee of Washington (State) and Senator Claude A. Pepper of Florida, was introduced into the House and Senate in January, 1938, its first version having been previously introduced in the House in August, 1937. This bill had the unanimous and vociferous approval of various left-wing organizations, such as the C.I.O., Artists' Union and National Negro Congress, and the strongly unionized theatrical and musicians' groups.

The Coffee-Pepper Bill was given extensive publicity, not only in art magazines such as the *Magazine of Art* and *The Art Digest*, but also in the press of the nation and periodicals not devoted to the arts (*e.g., The Saturday Evening Post*). The strongest arguments against the bill (which aroused the dread of its opponents) were its emphasis upon work-relief and its possibilities for political patronage. It proposed to entrench the existing Federal Arts Project personnel in the new Bureau and to give needy artists preference in employment without requiring them to "meet any qualifications which shall be set up"; to make administrators dependent upon the good will of the artists employed; and to give artists' unions practically dictatorial powers, as the bill denied voice to artists without union affiliations. The bill further failed to recognize the existence of two capable and permanent art bureaus of the Government, which have been operating almost uncontaminated by political control—the Office of the Supervising Architect with its Section of Painting and Sculpture in the Treasury Department and the National Fine Arts Commission—and hence made no provision to cooperate with or absorb these bureaus.

After the Coffee Bill's first introduction, a Federal Arts Committee, headed by nationally famous actors and musicians, was formed with headquarters in New York City, and local committees elsewhere, to perfect and support a bill "to meet the needs of the greatest number of artists and the general public." Groups of opposing artists countered with suggestions for a democratic system of administration, complete divorce of relief from any permanent bureau and the setting up of standards. The Federal Arts Committee accepted these basic changes.

In the late spring, Representative Sirovich drew up a new fine arts bill, H.J.Res. 671, backed by Coffee and Pepper and all the organizations which favored the original bill. The new bill finally reached the floor of the House of Representatives on June 15, 1938, was discussed both seriously and satirically, and was tabled by a vote of 195 to 35.

It is hoped in many quarters that the Treasury Department's act in making the Section of Fine Arts a permanent unit will forestall further efforts by organized artists on relief, to tie up painting and other arts with work-relief and politics.

Congress is considered to have dealt intelligently, on the whole, with bills affecting the arts, introduced in the first half of 1938. The United States Senate and the House of Representatives in May, 1938 passed the bill authorizing the establishment of the Smithsonian Gallery (the $4,800,000 "American Luxembourg" described in THE AMERICAN YEAR BOOK review of painting for 1937). The sum of $40,000 was appropriated to defray the expenses of a commission to make plans, and a site was provided on the Mall in Washington, D.C. The Regents of the Smithsonian Institution are authorized to solicit funds from private sources, to acquire by purchase or gift and sell contemporary works of art, to employ artists, award scholarships, and conduct exhibitions.

THE NEW YORK WORLD'S FAIR

The World's Fairs to be held during 1939 in New York City and San

Francisco have presented the greatest non-Federal opportunities for architects, sculptors and mural painters in the past two years. But until the spring of 1938, it looked as if there would be no exhibition of fine arts at the New York World's Fair. Grover Whalen, president of the World's Fair Corporation, had not included such a display in the plans; American art, he contended, would be manifest in the entire Fair. For nearly 18 months representatives of art organizations, art critics of the New York press, and other public spirited citizens conducted a campaign to have included in the New York Fair such an exhibition as every major exposition in this country has had since the beginning of the century. The successful outcome of the controversy was reflected in Mr. Whalen's announcement that a Fair-built edifice, providing 40,000 square feet of space, originally intended for community arts, would be available for the exhibition of living American art.

The mural project of the New York World's Fair, under the supervision of Ernest Peixotto, mural painter, is said to be the largest program of exterior mural decoration yet undertaken. Under way or completed are 102 murals representing all schools of painting from conservative to ultra-modern, and many methods. Dimensions range from 250 feet by 60 feet and larger. In addition to the painters employed by many individual exhibitors, 32 mural painters hold commissions from the Fair Corporation, each of whom has been assigned to a building or portion of it, and previously, it was ascertained that the artist's style was in harmony with the structure to be decorated. Among the murals completed are Domenica Mortellito's trout fishing scene over an entrance to the Food and Sports Building, a mural embodying a novel use of linoleum; Pierre Bourdelle's mural covering 8,000 square feet on the curved façade of the Food Building, and for the same structure, Carlo Ciampaglia's panels symbolizing Nature's bounteous products.

MURAL PAINTERS AND LABOR UNIONS

The opening guns in a campaign by trades unions to restrict all World's Fair mural painting to their own membership, were described in last year's AMERICAN YEAR BOOK review of painting; at the close of the year, the outcome was doubtful. Within a few months, however, the trades unions, by force of sheer numbers, consolidated a complete victory.

Toward the end of 1937, the United Scenic Artists of America, Local 829, A.F.L. affiliate, organized the Mural Artists Guild, enrolling 40 members at the initial meeting (asking only $10 initiation fee), and stated as policy that no mural should be installed anywhere within the local's jurisdiction, unless it had been designed and painted by members of the new guild. This was followed up early in 1938 by a statement released by the Building Trades Council No. 9 of the A. F. of L. that all mural designs for the New York World's Fair must have union labels, be done by union artists and be applied to the walls by the Brotherhood of Painters, Decorators and Paperhangers of America.

The Building Trades Council demonstrated its power in the case of Winold Reiss, a noted mural painter commissioned to decorate a new Longchamps restaurant at 253 Broadway. Not interested in joining the union, Mr. Reiss and his assistants went on with their work despite threats; and on Feb. 7, 80 mechanics (electricians, carpenters, plumbers, plasterers and others representing 10 different trades) walked out on strike. The management "called Reiss into conference" with the result that he and his assistants submitted to the union.

A Mural Artists' Guild of 60 members, older than the one organized by Local 829, conducted what it called "a defensive struggle" with the latter, "to preserve the artists' rights and freedom in creative work," according to its secretary, Domenico Motellito. The non-union guild had understood from the World's Fair Labor Relations Board that cooperation with the union involved only work done on the

Fair grounds. But in June, the guild of Local 829 said that artists creating murals would have to join the union or their work would not be handled. By this time, the struggle was between two groups of artists, both of recognized talent, one of which had the advantage of support by the enormous membership of the building trades unions. Toward the end of summer, the non-union artists, who actually held most of the commismissions for World's Fair murals, had surrendered and signed up.

The Treasury Department also surrendered to the unions, to judge from the wording of its greatest mural competition, already mentioned, for the United States Building at the World's Fair. The announcement stated that the actual murals would be executed by "painters of proven competence following the usual procedure which has been adopted for the execution of murals at the New York World's Fair."

In contrast to the 100% success of New York unions, those in San Francisco appeared to be defeated in similar efforts. The Artists' Union of San Francisco proposed wage scales which would make mural paintings at the California Fair cost about $15 per square foot. The exposition officials disregarded this estimate in offering contracts for mural paintings at a scale which would make them cost about $5 per square foot.

INTERNATIONAL RELATIONSHIPS

Paintings continued during 1938 to play an important role as emissaries of good will, or at least, good intentions. The Tercentenary of the first permanent white settlement in the Delaware River Valley by Swedish and Finnish pioneers was celebrated by Sweden, Finland and the United States during the summer in various ceremonies. Mention was made in this review of 1937 of the large exhibition of Swedish art, including paintings, sponsored by the Government of Sweden, which started on a circuit of American museums in September, 1937. The 11th and last stop was Philadelphia the end of June, 1938 where the exhibition was formally opened by the Crown Prince of Sweden at the Philadelphia Museum of Art. Simultaneously the Museum opened the first exhibition of paintings by Gustavus Hesselius, Swedish painter, the first formally trained artist to arrive in the American Colonies (1712).

American participation in the Venice Biennial was resumed in 1938; it will be recalled that in 1936 it was cancelled because of the rental policy then vigorously upheld by the American Society of Painters, Sculptors and Gravers, and the American Artists' Congress revolt against exhibiting under Fascist rule. This year the Grand Central Galleries sent works by 34 painters, past and contemporary, and 21 printmakers.

American paintings were shown also in Paris and London. The Museum of Modern Art, invited by the French Government, assembled a display from the Colonial period to the present, which was shown at the Jeu de Paume Museum, Paris from May 24 to mid-July. Of the 1,000 items included, approximately 200 were oil and water color paintings. The French reaction was not enthusiastic.

The London show was not official and was considerably smaller: 51 paintings by 42 contemporary Americans, sent over by the Wildenstein Galleries of New York to their London galleries, and shown in May and June. The display included loans from nine other New York galleries.

American painters and other artists continued to express their sympathy for victims of foreign wars by auctions of donated works. More than $1,000 was raised at the A.C.A. Gallery, New York by an auction of paintings, drawings and prints by artists of the vicinity, for the memorial fund of Ben Leider, American aviator in the Spanish Loyalist army, killed in action. The children's home for Spanish orphans at Bonimamet, Spain, was recipient of the fund.

Paintings and sculpture by 100 leading American artists were exhibited for a fortnight at the Studio Guild Gallery, New York, in April, then sold for the benefit of the American Jewish Joint Distribution Committee.

In these auctions, the paintings and other works are the donations of the artists.

Another interesting aspect of the disturbed state of Europe was the arrival in the United States of "refugee art" as well as human beings, seeking safety from threats of war. The famous Gangnat collection of paintings by Renoir, shown at the Philadelphia Museum early in the year, was but one of these "indefinite loans" to American museums.

EXHIBITIONS

Thousands of exhibitions of paintings are held annually in the United States, ranging from a few water colors by a single artist shown in some small gift shop, to extensive displays of works by old masters, requiring months, sometimes years of preparation, and valued at millions of dollars. The interest, cultural value and inspiration of a large number of these is such that one must regret the necessity of omitting mention of all but a few.

The contemporary painter's greatest opportunity and benefit is derived from the annual and biennial exhibitions held each year by art museums and associations throughout the country. This class of exhibition is not without its faults; nevertheless, its constant expansion testifies to its worth.

At the Carnegie International, Pittsburgh, the first prize of $1,000 went for the first time in this exhibition's history to a German painter, Karl Hofer, for "The Wind." Some observers saw political significance in the award, since Hofer was one of the artists whose work was included in the "Decadent Art" show in Munich in 1937, condemned by Hitler. The Carnegie second prize was awarded to Maurice de Vlaminck, France; third prize, Arnold Blanch, American; first and second honorable mentions, Albert Marquet and Maurice Utrillo, France; third, Rockwell Kent, American; fourth, Edmund Ceria, France; Allegheny Garden Club prize, Roger Chapelain-Midy, France, which nation hence captured five of the eight Carnegie awards.

Biennial exhibitions of American paintings were held in 1938 at Richmond, Va. where the Virginia Museum of Fine Arts inaugurated its First Biennial in March, an outstanding survey, with purchase prizes amounting to $6,000; and in Worcester, Mass. where the Art Museum had the largest exhibition of contemporary painting in its history.

The Pennsylvania Academy's 1938 annual was characterized by the "social consciousness" of the exhibits; the Edward T. Stotesbury $250 prize was revived after a lapse of nine years, going to George Harding for his panel for the Washington Post Office; and a new prize of $250 of the J. Henry Scheidt Memorial was awarded to William Glackens.

The 113th annual of the National Academy of Design, New York City, was notable for the inclusion of many young progressive painters. On the other hand, the Chicago Artists annual at the Art Institute displayed a more conservative trend. Quarter-century anniversaries were celebrated by the 1938 annuals both of the Toledo Museum of Art and the Wisconsin Painters and Sculptors, Milwaukee.

A number of exhibitions were built around theories, social, aesthetic or otherwise, such as the "Labor in Art" show at the Baltimore Museum, desired by the local Federation of Labor; and the first exhibition of Mrs. Logan's Society for Sanity in Art, at the Chicago Galleries Association.

American painters of the past were given one-man memorials in various places: Frank Duveneck and Charles Demuth (at different times) at the Whitney Museum, New York; Elihu Vedder at American Academy of Arts and Letters, New York City; John Vanderlyn in the Senate House, Kingston, N.Y., his native city; John Singleton Copley at Boston Museum of Fine Arts; Benjamin West at the Pennsylvania Museum of Art, Philadelphia, commemorating the bicentenary of his birth; and Gari Melchers at Virginia Museum of Fine Arts, Richmond. The Addison Gallery of American Art, Andover, Mass. honored a living painter in assembling an excellent retrospective exhibition of the paintings of John Sloan.

A Baroque revival seemed to be apparent in the various excellent shows of Italian paintings of the 17th and 18th centuries. The Springfield, Mass. Museum led off with the first American one-man exhibition of Allesandro Magnasco in January, followed by the Chicago Art Institute's superb showing of the Tiepolos, father and son, in February and March. Closely on its heels came "Tiepolo and His Contemporaries" at the Metropolitan Museum, New York. There were outstanding exhibitions of Venetian paintings at Knoedler Galleries, New York City in the spring (limited, however, to the 15th and 16th centuries) and in San Francisco in July, at the California Palace of the Legion of Honor.

Old masters of other nations were by no means neglected. The Carnegie Institute of Pittsburgh held a survey of British painting from the 13th century to the present; and the Jacques Seligmann Galleries, New York City, put on the most important loan exhibition of Raeburn's portraits in 25 years. "Holland Indoors and Out" was the title of a large exhibition of 17th century Dutch painting at Knoedler's, New York, to mention but a few.

New approaches to appreciation of painting were explored in a few intelligent and outstanding shows, such as "Relationships Between French Literature and Painting in the 19th Century" at the Columbus, O., Gallery of Fine Arts.

MUSEUM ACQUISITIONS, GIFTS, PURCHASES

Museums and art associations throughout the United States continued to add to their permanent collections despite such obstacles as political efforts to divert museum funds to relief for the destitute. The Frick Collection, New York, acquired its first Tintoretto, portrait of a Venetian senator. The Rhode Island School of Design became the sole American possessor of a painting by Karel Fabritius, "St. Peter's Flight from Prison." Italian paintings were presented by the Kress Foundation to American institutions: a 14th century polyptych to Rollins College, Winter Park, Fla. and Carpaccio's "The Saviour" to the Isaac Delgado Museum, New Orleans.

Permanent collections of American painting were strengthened by various gifts and bequests, not to mention an increase in museum purchases of contemporary painting. The Cleveland Museum of Art was given first choice of American paintings in the private collection of the late Mrs. Henry A. Everett who in her will also established a fund for the same Museum's future acquisitions of American Art. To the Fine Arts Society of San Diego, Calif. she bequeathed 39 oil paintings by recent and contemporary Americans.

To the Toledo Museum of Art was bequeathed by the late Mrs. Edward D. Libbey, who died in March, 1938, a fund to add continually to the Maurice A. Scott collection of American paintings, which she had previously established in memory of her father.

The San Francisco Museum of Art was enabled chiefly by the generous patronage of Albert M. Bender to acquire during 1937–38 approximately 260 works by contemporary artists, most of them Americans.

Many museums and art associations purchased one or more paintings by living Americans during 1938; some purchases were extensive. During the season ending in the summer of 1938, the Metropolitan Museum, New York, purchased 17 American paintings through its Hearn fund. The Whitney Museum, New York, Newark, N.J. Museum, the Pennsylvania Academy of Fine Arts, Philadelphia, were among institutions making numerous purchases in this field.

CINEMA

Walt Disney's "Snow White and the Seven Dwarfs," the first feature-length animated cartoon, must be mentioned, as its original units are paintings. Released in the spring of 1938, this picture was an immediate success with the public, and was also hailed as the outstanding achievement to date in its field. Walt Disney was appropriately the recipient of honorary degrees conferred by Harvard, Yale and the University of Southern California. "Snow White" was photographed from 475,000 separate paintings by more than 600 artists or animators, and so great was the demand for the original paintings that a selection of 7,000 of the most suitable were distributed through the Courvoisier Galleries in the fall, to one outstanding art gallery in each principal city, for exhibition. Judging from early information, these charming little paintings on celluloid were eagerly acquired by museums, art collectors and the general public.

SCULPTURE

By Rose V. S. Berry

Art Critic and Writer

GENERAL

In no one thing does man give more of his inner self, therefore his best, than in his art. A concrete record of his artistic achievement is intimate, revealing his reaction to environment and to the spirit of his times, and his hope of the future. Discussion as to the national aspect of American sculpture is involved with that of all American art. Essentially derivative, since America is something of all peoples, how much can they claim for the originality of their artistic statement? More than at any time in the last 50 years it would seem that an answer might be forthcoming from the several projects that now interest American artists.

The Federal Arts Project, after four years of supervision, has reached the point of definite recognition. The American sculptor has taken a place in this supervised activity which, for many artists, has transformed a situation of poverty, despair, and hopelessness into one of hope, financial security, and opportunity to create. There has been even more to the Federal Arts Project. Several important competitive commissions have been launched in which success meant ample compensation. Two great International Expositions—at New York and San Francisco—have aroused artists to a realization of a need for their effort. The by-product of this stimulation has brought a large accumulation of studio ideas into definite being, and from this development smaller projects have benefited. Sculpture exhibitions have been numerous; usually their expense prohibits them. Then, too, there has been an extraordinary impetus from younger men who have matured rapidly in these thought-provoking years. These men are not to be passed over lightly.

The World War cost the nations one generation of men. To-day's young folks have come into a much smaller world and better equipped with knowledge of itself. The radio, the airplane, and the moving picture have brought this world in all its parts to a daily audience. Commissions like that from the Field Museum to Malvina Hoffman, and Cyrus Dallin's series of Indian portrait busts, have carried a physical knowledge of the world's races into the art of sculpture. In 1910, the first important exhibition of savage sculpture was shown in Rome, and it revealed the importance of a medium and its contribution in a change of quality. Savage sculpture, more than anything else, disregards age-old classical law and tradition. America has had two generations of children brought up on the entertainment strips of the Sunday newspaper supplements. With these and the American cartoonists in mind, it is not a far cry to the "seven dwarfs" and most of the prevalent ugliness—much of it preferable to the sweet prettiness of the past. Artistically, there has never been a greater change in so short a period of time.

MASS AND BULK IN MODELLING

Spontaneous, humorous, fancifully whimsical subjects seem to have vanished. In modelling small animals, grace, speed, alertness—except in the hands of the few—have given way to feathery solidity, furry puffiness, and a satisfied elephantine regard for mass and bulk. Oriental, Slavic, and Central-American ideas prevail in a modern stylized adaptation. The figure, though in a small scale, is presented upon heroic proportions, and the modelling is a tight pre-Hellenic type when arms and legs were not separated from the torso, and the finished figure in bronze or stone resembles its predecessor—the log. Such simplification is the "stream-line" in the superlative, and is the supreme test of greatness in any degree. It is also a devastating revelation of the poverty of ideas.

THEME EMERGENCE

In much of the ultra-modern sculpture the theme is no longer even thinly disguised. Sanctioned by the totalitarian countries in Europe, taking every opportunity to preach their theories, many of the younger American sculptors include in their theme a political significance often in a spirit of bitterness and defiance. The smallness of the world, the universal problems of men, the lack of faith and trust, too frequently a portrayal of despair, are included in American sculpture. It is a new conception of art, a mirror-like reflection of the daily newspapers.

In the art of the two expositions, that of the sculptors will be especially interesting. Most of the eastern men have been more or less loyal to a Prix-de-Rome experience; they will draw upon the sculptural knowledge of the ancient world as amplified by the Renaissance. The western sculptors are mostly defiant of the laws of the classical adherents; they prefer an arbitrary arrangement of balanced masses with a certain deference to the decorative element in all that they do. They will have a strange amalgamation, too. All the arts bordering upon the Pacific, with tremendous racial distinctions, will be blended into a sympathetic whole that must find some kind of common artistic ground. It will not be a light task. It will certainly be a gauge for valuing the talent of the western sculptor; it will show what two years of thoughtful study and an acceptance of the architectural and landscape restrictions have brought into being by way of his talent.

So, it would seem, that 1937–38 will prove an epoch-making period in the story of American sculpture. It is possible that from the immensity of the output an American tendency will be discovered. On the other hand, necessity for kindred ideas, for a correlation with other artists and other arts, may only reveal the American sculptor's ability to meet a problem and adapt his inventive ideas to that problem.

AMERICAN SCULPTURE IN PARIS

The French Government, for an exhibition at the Jeu de Paume Museum in Paris, invited an American collection of art dating from colonial times to the present. Among the sculptors included were: Russell Barnett Aitken, the late George Grey Barnard, Alexander Calder, Harold Cash, Jo Davidson, Hunt Diederich, Jacob Epstein, Alfeo Faggi, Herbert Ferber, Duncan Ferguson, John B. Flannagan, Anna Glenny, Wayland Gregory, Chaim Gross, Minna Harkavy, Reuben Nakian, Isamu Noguchi, Henry Varnum Poor, Herbert Hazeltine, Gaston Lachaise, Robert Laurent, Arthur Lee, Paul Manship, Elie Nadelman, Frederic Remington, Charles C. Rumsey, Augustus Saint-Gaudens, Helene Sardeau, Concetta Scaravaglione, Maurice Sterne, Carl Walters, Warren Wheelock, Gertrude Vanderbilt Whitney, William Zorach.

CARNEGIE INSTITUTE EXHIBITION

The Fine Arts Department of the Carnegie Institute in Pittsburgh put on the first sculpture exhibition it has given in ten years. There were 103 pieces of sculpture from 36 sculptors, namely: Paul Manship, William Zorach, Robert Laurent, Anna Hyatt Huntington, Malvina Hoffman, Her-

bert Hazeltine, Wienz Warneke, Concetta Scaravaglione, Janet De Coux, Mahonri Young, John Flannagan, Jo Davidson, Chaim Gross, John B. Storrs, Sterling Calder, the late George Grey Barnard, Laura Gardin Fraser, James E. Fraser, Gertrude K. Lathrop, Carl Jennewein, Charles Rudy, Jose de Creef, Edmund Amateis, Richmond Barthè, Gladys Edgerly Bates, Hunt Deiderich, Alfeo Faggi, Arthur Lee, Aronzio Maldarelli, Harry Rosin, Sidney Waugh, Elie Nadelman, and Maurice Sterne.

THE SCULPTORS' GUILD

The Sculptors' Guild, a new society, received its charter of incorporation. Its Executive Board consists of: Sonia Gordon Brown, Aaron Goodelman, Chaim Gross, Minna Harkavy, Milton Horn, William Zorach, Berta Margoulies, Concetta Scaravaglione, and Warren Wheelock. The first exhibition of the Sculptors' Guild was an out-of-door display on Park Avenue, 150 works by 100 sculptors. Among the exhibitors were: William Zorach, Sonia Gordon Brown, Aaron Goodelman, Chaim Gross, Warren Wheelock, Concetta Scaravaglione, Berta Margoulies, Milton Horn, Minna R. Harkavy, Anita Weschler, Harold Cash, José de Creeft, Robert Cronbach, John Cunningham, Hunt Diederich, Alfeo Faggi, Herbert Ferber, John Flannagan, Oronzio Maldarelli, Reuben Nakian, Paul Manship, and others.

EXHIBITIONS, AWARDS, PRIZES, AND HONORS

The Whitney Sculpture Show becomes an annual after 1938. The current exhibition ranges in size from miniature heads in limestone to the heroic statue in bronze by Robert Laurent. Carl Schwarz, Charles Rudy, Arnold Ronnebeck, Vincent Glinsky, Alice Decker, Louis Slobidkin, William Zorach, Henry Kreis, Hugo Robus, Margaret B. Kane, Heinz Werneke, were among the exhibitors.

Pennsylvania Academy of Fine Arts awarded only one sculpture prize. Anthony de Francisi received the prize for his "Gilda," a bas-relief in wood. The National Academy awarded three sculpture prizes. First prize went to Irwin Springweiler; second, to Gleb Derujinsky; third prize to Lewis Iselin. Women Painters and Sculptors awarded three prizes: First prize to Mrs. Lu Duble, for her statue "Calling the Loa Haiti"; second prize went to Rosamond Sears for her "Shetland Pony"; third prize went to Beonne Boronda for her "Lynx." Rose Newman, Doris Caesar, Mary Sarg, Ilse Niswonger, Eugenie Marron, Edith Brisac, Edythe Ferris, Nellie Burton, Betty Carter, and Mary Hutchinson received favorable comment from the critics.

Western New York's exhibition broke all precedent when it received five times too many sculpture submissions. It doubled the number of announced acceptances. The first prize was awarded to Mary Metcalf Long and the second to Don Schrekengost. With the Patterson Purchase Prize the committee on awards secured the wood carving of William Ehrich. The Chicago Art Annual awarded only one sculpture prize in 1938. It went to Charles Umlauf for a figure entitled "Mother."

The Prix-de-Rome, this year went to George Matthew Koren, of Pittsburgh, Pa. Joseph Coppolino, who has won other honors for his art, was given Honorable Mention. Guggenheim Sculpture Scholarships, this year in both instances were renewal extensions, and were received by Mrs. Lu Duble, who has been working in Haiti, and to Ahron Ben-Shumel.

FEDERAL PROJECTS

Four figures symbolizing the Seasons, by Vally Wieselthier, will be cast in stone and placed in the Grover Cleveland High School. "Flight," an abstraction by José Ruiz De Rivera, will be cast in aluminum and placed at the Newark Airport. "Girl with Guitar" by Nathaniel Katz; "Standing Figure" by Chaim Gross; "Destitute," a marble figure by Maurice Glickman; and "Female Figure," which will be a memorial to Paul Block, a young American who died fighting for the Loyalists in Spain, have already been placed. "The

Dance," a wood panel by Milton Horn, and two plaster panels for music auditoriums by Joseph Walter, will be installed soon.

In the contest for the New York World's Fair, the Federal Arts Project received 430 anonymous scale models; the commissions were assigned to Camden, a Prix-de-Rome man and a Yale graduate, and to Louis Slobodkin, a recent Prix-de-Rome candidate. Among sculptors who submitted models were Boris Lovet-Lorski, Carl Milles, Waylande Gregory, Gaetano Cecere, Cornelia Van Chapin, Heinz Warneke, Edward McCartan, Paul Manship, George W. Blodgett, Nathaniel Choate, Anthony de Francisi, Gleb Derujinsky, Malvina Hoffman, Harry Kreis, Silvia Shaw Judson, Marion Sanford, and Wheeler Williams.

PLACEMENTS AND FINISHED COMMISSIONS

The Ellen Phillips Samuel Memorial, with a sum of $700,000, is to install a series of sculpture-groups dealing with American history upon a terraced setting in Fairmont Park, Philadelphia. Robert Laurent's "Spanning the Continent" has just been placed. It will be followed shortly by "Welcoming the Peoples," which is Maurice Sterne's commission. Several more are in the stage of production, among them groups by J. Wallace Keppy and John B. Flannagan.

The frieze for the Gallery of Fine Arts, Columbus, O., by Robert Aitken, was installed in the second half of the year. It has several unusual points of interest: it not only takes an architectural position, as sculpture, but it carries an historical theme for it presents in Aitken's excellent style 68 artists whom Aitken considers the world's greatest, beginning with Phidias and ending with George Bellows. One section portrays John La Farge, George Bellows, Augustus Saint-Gaudens, John Singer Sargent, John Q. A. Ward, James M. Whistler, and August Rodin.

Portraits of Will Rogers and Wiley Post by Herbert Adams have been placed in Oklahoma's Hall of Fame in Tulsa. A full standing figure of Will Rogers, an excellent likeness and characteristic of the inimitable humorist, by Jo Davidson, was recently unveiled at the great air-beacon memorial in Colorado. Among the sculpture groups and statues purchased by Mr. and Mrs. Archer M. Huntington for Greenbrook Gardens. South Carolina, was "Maidenhood," a seated figure, by the late George Grey Barnard.

ONE-MAN EXHIBITIONS

Wheeler Williams' one-man-show included sculpture in alabaster, stone, bronze, terra cotta, porcelain, marble, aluminum, and silver. His greatly stylized portrait of Abraham Lincoln in wood was an outstanding achievement in which there was strong characterization notwithstanding the exaggeration of the conventionalization.

Alexander Archipenko added interest to his recent one-man-show when he included color. There were some tinted and gilded effects, and the "Leaning Woman," done in terra cotta, was decked in silver.

The one-man-shows, through the year, frequently carried sufficient examples to give an impression of several manners in which the sculptor worked. Chana Orloff's exhibition consisted of 30 pieces. Arline Wingate's exhibition listed 18 pieces. Cornelia Van A. Chapin's numerous birds and animals straight from the Zoo were cut in wood and stone. Alexander Stoller, who has been working for several years in Paris, had an interesting showing in work done in stone. Among others giving one-man-shows, were Renee Sintenis, Robert Davidson, Allen Townsend Terrell, Lillian Swann, and Polygnotos Vagis.

SCULPTURE AT THE GOLDEN GATE EXPOSITION

Besides the main buildings, all of which have sculptural ornamentation, there are five courts in which fountains pieces, free standing figures, groups, and high- and low-relief will enrich the architect's plan.

In the Court of Honor, O. C. Malmquist has the many-ton gilded Phoenix, which required an engineering feat to place atop its tallest tower; eight subjects in bas-relief, and one large statue, "Fauna." William G. Huff has four statues, "Industry," "Agriculture," "Science," and the "Arts," which stand with three other large figures: "Earth" by Ettore Cadorin, "Flora" by Raymond Puccinelli, and "Sea" by Carlo Talisbue.

Jacques Schnier has work widely scattered: "American Eagles," two important bas-reliefs, each 80′ long and 26′ high, representing the "Dance of Life"; two free standing figures, male and female, "Ocean Breeze" and "High Sierra," and two fountain figures Oriental in style.

Ralph Stackpole has the theme statue of the whole decorative plan. In the Court of Pacifica stands his 80-foot colossal "Pacifica." The head and hands were modeled in Stackpole's studio, the torso and limbs were built over a frame-work of steel, timber, and lath, and erected on the grounds.

Brents Carlton, Sargent Johnson—a Negro sculptor who has exhibited widely over the United States—Carl George, Adeline Kent, Ruth Cravath Wakefield, Cecilia Graham, Helen Phillips, Donald Macky, and Haig Patigian have large free standing statues on the grounds.

Michael Von Meyer, David Slivka, Lulu H. Braghetta, and P. O. Tognelli have several bas-relief subjects in the various courts. The work of Tognelli is frequently in high relief, and all of it is masterly in craftsmanship.

THE NEW YORK WORLD'S FAIR

In many respects the eastern exposition differs from the western. It is not entirely a matter of restriction in either locality of subject matter. There was a time when the official authorities were not in favor of a Fine Arts Building. That has been overcome. A building will be erected having 40,000 feet of hanging space. The Fine Arts Committee expect to accommodate 800 items for exhibition. The Sculpture Committee consists of John Gregory William Zorach, and Paul Manship.

The most imposing pieces of sculpture for the New York Exposition have been done by men of classical training, therefore their work will escape the temporary aspect of an occasion. James Earl Fraser has modelled a 65-foot portrait statue of George Washington. Paul Manship has completed two groups, as "Passage of Time", which will be more or less related to a 50-foot sundial. Leo Friedlander has modelled four figures, "Freedom of the Press", "Speech", "Religion", and "Assembly", upon which the founding of the American Government is based. Carl Jennewein has done two 120-foot pylons. George H. Snowden has modelled "Mankind in the Primitive" to which is opposed "Man in Progress" by Carl L. Schmitz. Edmund Amateis has modelled a group significant of American Folk Lore. Other work of importance has been done by Gaetano Cecere, Joseph Keselewski, Lee Lawrie and Joseph Renier. Carl Schmitz, George Holurn Snowden, and Albert Stewart, aside from other assignments, have done some excellent decorative work supplementary to architectural and sculptural setting and ornamentation.

NECROLOGY

Among the notable artists to have passed away this year were George Grey Barnard, R. Tait McKenzie, and Isadore Konti. Each made a distinctive contribution to his art, totally unlike that of other men.

ARCHITECTURE

By Francis P. Sullivan

The American Institute of Architects

FEDERAL CONSTRUCTION

In the new period of uncertainty and retrenchment following the recession in 1937 the building industry as usual suffered a disproportionate curtailment since the building is one of the least liquid forms of investment. The Federal Government partially offset this loss by new and larger appropriations for public works, with the result that the important buildings which have been undertaken in 1938 have been for the most part governmental projects which have necessarily been planned in haste with the view rather of stimulating production than of creating monuments of enduring construction.

The Procurement Division of the Treasury Department placed under contract 185 post offices, court houses and other Federal buildings, and the other governmental departments embarked upon similar enlarged building programs. In addition to these the Public Works Administration, through its system of grants and loans, aided 3,705 non-Federal building projects undertaken by States, counties and municipalities involving a total expenditure of $704,116,371.

BUILDING IN THE NATIONAL CAPITAL

In the National Capital the so-called Apex Building forming the eastward termination of the triangle group, the new building for the Department of the Interior and the Federal Reserve Board Building were all brought to completion in the course of the year and a beginning was made on the building for the National Gallery of Art, the gift of the late Andrew Mellon. These buildings were designed respectively by Bennett, Parsons & Frost; Waddy B. Wood; Paul Cret and John Russell Pope.

HOUSING

Under the newly constituted United States Housing Authority, the provision of low rent housing for the mass of citizens in the lower income groups proceeded with a new and vigorous impulse. One hundred and sixty-nine new local housing authorities took up the task of providing this type of development for their communities and with the assistance of the United States Housing Authority projects were initiated in 142 communities. Such projects already under loan contracts in 60 cities will provide 54,208 family units and give homes to 216,000 individuals.

Under the present policy of the Housing Authority the cities themselves are providing slum clearance and low-rent housing with the assistance of the Federal Government, and it is contemplated that the rents in these communities will be reduced to a point within the means of the lower income groups though not yet perhaps of the lowest group of all.

In order to provide houses for those who are able to save, out of restricted earnings, sufficient capital for home ownership a plan has been proposed by the Housing Committee of the American Institute of Architects in cooperation with the Producers Council and the Federal Home Loan Bank Board. In order to facilitate the operation of the plan the Federal Home Loan Bank Board has agreed to finance 12 regional offices.

The Federal Housing Administration insured and placed on a premium paying basis under the insured mortgage system 135.500 small homes with mortgages totaling $588,000,000 about 70% of which apply to new construction. In addition mortgages on 106 large scale rental housing projects, with mortgages totaling $45,000.000, were placed in operation or under contract.

THE ARCHITECT IN PUBLIC WORK

The relationship between the architectural profession and the Federal, state and municipal governments continued throughout 1938 to serve as a source of agitation and debate. The report of the joint committee of representatives of the American Institute of Architects and of the Procurement Division, appointed by the Secretary of the Treasury to discuss the method by which the highest standards of planning, construction and design could be obtained in government buildings, recommended that architects in private practice be selected by a non-partisan board.

This recommendation was not put into effect by the Treasury Department and as a result a group of architects who favored the competition method of selecting architects for public work became extremely active in endeavoring to secure the general support of the architectural profession for its program of open competition for all Federal buildings and particularly to obtain the endorsement of the American Institute of Architects for the so-called "Wearin Bill," providing for the selection of architects by competition for all types of public buildings except the very smallest.

This agitation led to an extended debate in the convention of the American Institute of Architects held in New Orleans in May, 1938, and the convention voted overwhelmingly its adherence to the traditional policy of the Institute recognizing both the direct selection of architects and their selection by means of properly regulated competitions as alternate methods. The convention also gave its support to the rival bill introduced in Congress by Representative Paul H. Maloney of Louisiana in which this principle was given recognition.

Recognizing the fact that the professions as a group were concerned with similar problems in connection with their relation to the various branches of the government, the Convention also voted to extend invitations to the national societies representing all the professions and the fine arts to join in an Interprofessional Conference for the purpose of discussing the manner in which professional and technical men could best serve the government and the public at large, as well as other questions of general interest to the professions.

THOMAS JEFFERSON MEMORIAL

Even those architects who disapproved of the general application of the competition method to all types of government buildings agreed that purely monumental structures involving no complicated problems of practical use might appropriately be made the subject of competitions, and when the construction of a memorial to Thomas Jefferson was authorized by Congress it was generally expected that a competition for its design, open to all the architects of America, would be held.

The commission appointed to determine upon a location and design for the memorial, after long deliberation, announced their selection of a site on the margin of the Tidal Basin directly south of the White House, appointed John Russell Pope as the architect for the structure, and selected, from among alternate designs submitted by him, a structure of the "Pantheon" type, recalling strongly the center motive of the proposed National Gallery of Fine Arts, designed by the same architect.

In the sketches made public, the monument was raised materially above the surrounding grade and approached by long flights of steps; the outlines of the Tidal Basin were modified to give it a rectangular shape and access to the Memorial was provided by narrow causeways extending across it.

It soon became evident that neither the site nor the design of the Memorial had received the whole-hearted concurrence of the Park and Planning Commission or the Commission of the Fine Arts, and both site and design were the subject of serious criticism on the part of Committees of Congress, architects and landscape architects and the public at large.

It was argued in opposition to the scheme that, while the site when seen on a plan had certain axial relationships with the White House, the Capitol, the Mall and the Lincoln Memorial, these relationships could not be appreciated on the ground so that the selection of the location was a matter of "paper" planning without regard to existing realities; and that the design, while classically correct, was neither original nor inspiring and would suffer greatly by comparison with the Lincoln Memorial and the Washington Monument.

It happened also that the plan proposed would result in the destruction of a number of Japanese cherry trees planted along the margin of the Basin. The destruction of these trees assumed a disproportionate importance in the minds of the public and a bitter controversy resulted in which the preservation of the cherry trees became almost a national issue.

Under pressure from all sides the Jefferson Memorial Commission modified its plans so as to reduce the height of the monument and place it in a less formal setting, but the general character of design remained unchanged and the Commission of Fine Arts still withholds approval of it. In the meantime Congress made appropriation for beginning its construction.

While this controversy was at its height the death of the architect of the Memorial, John Russell Pope, terminated the long and brilliant career of a most distinguished architect. His work was characterized by extreme refinement, profound scholarship and exquisite feeling for proportion and scale. He consistently followed the true classical precedent and was among the last of the traditional school who made no concessions to the modern theories of design which, in the past few years, have so strongly influenced American architects as a whole.

TRENDS IN DESIGN

The surrender in practice to modernist influence of those who in theory adhere to the classical tradition has been almost a complete one. Consciously or unconsciously they have borrowed from the modernists their simplicity of surface and boldness of mass; they have discarded with them the conventional ornamentation inherited from the past and have freed themselves almost completely from the rigid rules and formulae and the intense preoccupation with style and period which hindered their predecessors of a generation ago.

Perhaps because of this very surrender, a survey of current trends in the field of design would suggest that the modernist movement in its extreme form has now to some extent lost impetus. At any rate there seems little reason to suppose that it is about to become the prevailing medium of expression in American architecture.

In a test of popular taste conducted by a magazine of large circulation in which houses of the traditional type were compared with those of the modern school, it was evident that the general preference was for the more accustomed forms. The modern houses were criticized not only on the ground of appearance but also from the point of view of practical use, a reaction to some extent unexpected, considering the intense emphasis placed by designers of the modern school on the imperative necessity of functionalism in design.

It would appear from the results of this test that modernist architecture in America is a movement imposed from outside and not a spontaneous growth with its origin in the culture habits and sentiments of the people. It is disappointingly evident moreover, that it is in imminent danger of becoming simply a "style" like other styles. Although it was conceived as a revolt against academic tradition it almost at once adopted a convention as formal and rigid as that of the classical schools and even more artificial and stylized.

NEW YORK AND SAN FRANCISCO EXPOSITIONS

Its most significant successes have been in those fields where imagination has freest play. The International Exposition now being constructed in New York shows it in its lightest and happiest vein, absolved from metaphysical refinement and free to play with its problem. It is no coincidence that in several of the modern types of buildings presented in the test referred to above the influence of Oriental architecture is evident. The architects and artists of the West are becoming increasingly conscious of the lessons that they have to learn from the great arts of the East.

In the planning of the other International Exposition being constructed at San Francisco, this obligation is frankly acknowledged and the design of many of the most important of its structures show a careful study of the monuments of the Orient.

PAINTING AND SCULPTURE IN ARCHITECTURE

One of the most promising and significant accomplishments of recent years has been the work carried by the Section of Painting and Sculpture of the Treasury Department. For the first time in the history of America the allied arts of painting and sculpture have taken their rightful place as important elements in the design of public buildings and have been freely employed in their embellishment. Since the formation of this branch 493 artists have completed contracts for works of mural painting and sculpture, 209 more are under contract for such works and 111 are preparing preliminary designs.

Such a volume of activity carried on over so short a period must necessarily involve various degrees of competency among the artists employed but it may be taken for granted that much mediocre or even bad work must be done before truly vital and significant schools of mural color and architectural sculpture can be established in a country which for generations has been almost completely indifferent to these arts.

MUSIC AND THE OPERA

By Catherine Smith Bailey

Music Reviewer, *The Christian Science Monitor*

METROPOLITAN OPERA

The Metropolitan Opera Company continued with the alert and skilled management of Edward Johnson, and maintained a repertory which made the demand for seats extraordinary. Large and varied repertory, splendid artists, a constantly improving orchestral body, fresh costumes and scenery, have all helped to maintain the interest aroused when the Metropolitan emerged under new management a few years back.

The opera auditions of the air which have brought recognition and engagements, usually elsewhere than at the Metropolitan, to the young winners, the Saturday afternoon operatic broadcasts, the Sunday concerts, have all helped to reëstablish the organization on a secure financial footing. The spring season proved popular during the two years the Metropolitan has run it. In the course of this extra season the young winners of the auditions have made their appearances, and opera in English has found large audiences. In the spring of 1938 the management dispensed with the extra season. The official reason assigned was time, personnel, and funds, all three rebudgeted to make possible the large share the Metropolitan planned to take in the musical program of the World's Fair.

Although the spring season was omitted, the regular season was lengthened by two weeks over that of the previous year. Strauss's "Salomé" and "Elektra" were given such magnificent performances as to make audiences fully aware of the magnificence of these scores. In "Salomé," Marjorie Lawrence scored a tremendous success in the name rôle, while Rose Pauly's unforgettable Elektra was portrayed with nobility and grandeur. Rossini's "Barber of Seville" and Mozart's "Don Giovanni" were brought back into repertory. "Amelia Goes to the Ball," an opera buffa by a young Italian, educated at the Curtis Institute, who did the libretto as well as the music, showed genuine ability and spirit. Damrosch's "Man Without a Country" arrived at a creditable performance. A brilliant young conductor, Leinsdorf, was one of the contributing factors to the success of a season which included 41 performances of Wagner's nine operas, and 27 mountings of five of Verdi's compositions. The opera performed the largest number of times was "Tristan und Isolde," heard nine times.

The end of the regular season did

not, however, bring an end to New York's opera. Post season performances of Wagnerian operas came at the Metropolitan with the regular casts.

Mafaldo Favero, Italian soprano, and Jussi Bjoerling, Swedish tenor, met with popular response from the public in the early performances of the season in which they appeared. Another newcomer, Risé Stevens, an American, has also evoked a favorable response from audiences,

The revival of Gluck's "Orfeo" in the early part of the 1938–39 season proved a tremendous success, and was regarded by the critics as one of the finest accomplishments in opera in many seasons.

The Metropolitan engaged Felix Wolfes, widely experienced German director of opera, as assistant conductor. He came to this country as accompanist and musical coach of Marjorie Lawrence.

OTHER NEW YORK OPERA

The London Intimate Opera Company, consisting of three members, Frederick Woodhouse, Geoffrey Dunn, and Winifred Radford, brought their repertory of short operatic works to New York in January. Arne's "Thomas and Sally," Dibdin's "The Grenadier," Purcell's "Don Quixote," Carey's "True Blue," Mozart's "Bastien and Bastienne," Schubert's "The Wedding Breakfast," Bach's "Coffee Cantata" and several other works, seldom heard, were presented with grace and finish.

In May the San Carlo Opera Company, still a going financial and artistic venture after 25 years of travelling over the country, came to New York for an engagement. The record of this company, which year after year brings "Aïda," "Carmen," "Faust," "Trovatore," "Rigoletto," "Lohengrin" and other familiar repertory to thousands of listeners, is an amazing achievement of managerial skill and astuteness.

The New York Hippodrome Opera Company finished 38 weeks of opera in May.

The Juilliard Foundation put on Beryl Rubinstein's "The Sleeping Beauty" (book by John Erskine) in January for a world premiere. With a cast and orchestra made up of students at the school, Albert Stoessel conducted. The Juilliard School mounted "The Marriage of Figaro" in December as its first production of the 1938–39 season, presenting an alternating cast for the three evenings of performance.

OPERA IN OTHER CITIES

Philadelphia, in addition to ten performances by the Metropolitan company from New York, has three local operatic enterprises, the Philadelphia Opera Company, the new Philadelphia-La Scala Opera Company, and the Civic Grand Opera Company. All three have short seasons, and the first mentioned plans to limit its singers to persons living or studying in Philadelphia.

When Kirsten Flagstad appeared in Chicago on Nov. 21 with the Chicago City Opera Company as Elsa in "Lohengrin," Edwin McArthur, her accompanist, made his debut as an operatic conductor.

In Baltimore, on Feb. 28, "The Captive," an opera by Gustave Strube (book by F. A. Kummer) was performed by the Baltimore Civic Opera Company, and conducted by the composer.

The Department of Music at Smith College, Northampton, Mass., gave a first American performance of "Costanza e Fortezza," the most celebrated of the operas by Johann Josef Fuchs, Bach's Austrian contemporary. Mabel Garrison headed the cast, and Werner Josten conducted.

The San Francisco Opera Association's season from Oct. 7 to Nov. 3 consisted of 11 regular subscription performances and a popular series of three operas. The list of soloists included Rose Pauly and Mafalda Favero, Thorborg, Pons, Rethberg, Bonelli, Schorr, Huehn and many others from the roster of the Metropolitan in New York.

FESTIVALS

The twentieth anniversary of the Berkshire Festival of Chamber Music came on Sept. 21 at South Mountain in Pittsfield, Mass. Mrs. Elizabeth Sprague Coolidge, founder of the famous colony in the Berkshires and consistent and generous patron of chamber music in this country, spoke briefly to her audience. Brochures which listed all the programs of the festivals held at South Mountain were distributed, and for this anniversary Mrs. Coolidge reassembled not only the original quartet which had inaugurated the Berkshire programs—Hugo Kortschak, Jacques Gordon, Clarence Evans and Emmeran Stoeber—but also such an assemblage of famous quartets as probably have not been gathered for any other series. The Kolisch, Gordon, Roth, Coolidge, South Mountain and Berkshire quartets were all present and performed. In the final number of the last concert, the fourth Brandenburg Concerto, Feri Roth played the solo violin, Hugo Kortschak conducted, and the players of all the quartets were members of the accompanying string orchestra. New compositions at the Festival included a quartet, Opus 28 by Anton von Webern, Louis Gruenberg's Quartet, Opus 40, Frederick Jacobi's new Quintet, "Hagiographa; Three Biblical Narratives," Frank Bridge's Fourth Quartet, and Ernest Toch's Quintet, Opus 64.

The Berkshire Festival, inaugurated by Henry Hadley in 1934, and continued since 1936 by The Boston Symphony Orchestra and Serge Koussevitzky, this year built a permanent music shed to house players and listeners and to secure better acoustics for the instruments used. The concerts, on Aug. 4–7 and Aug. 11–14 included Beethoven's Sixth and Ninth Symphonies, a Brahms Symphony, a Wagner program, and music by Sibelius, Prokofieff, Debussy, Respighi, Rimsky-Korsakoff Ravel, Copeland and Piston. The attendance was tremendous.

The eighth of the festivals of American music held by the Eastman School of Music of the University of Rochester took place April 25–29 under the direction of Howard Hanson. New music heard in the course of the concerts included Ernest Lyon's "Chorale for Two Brass Choirs," Frank Campbell-Watson's "Symphonic Prelude," Bernard Tuthill's "Overture for Symphonic Band," a quintet for piano and strings by William Ames, Charles Vardell's "Folk Symphony from the Carolina Hills," and David Diamond's "Elegy in Memory of Ravel" for orchestra. In the field of ballet music, Burrill Phillips's "Ball Park" and Byron Arnold's "Three Studies" had first performances.

The annual Westminster Music Festival was held May 23–28 in Princeton, N.J., with 30 compositions by contemporary American composers on the programs. Participants included the Westminster Chorus, John F. Williamson, conductor; the festival choruses, the Roth Quartet, and several soloists.

The Westchester County Festival began with a junior concert of 300 high school students on May 13 and ended May 20–21 with concerts by the Philadelphia Orchestra and a chorus of 500 under the direction of Hugh Ross, director of the annual festival. The Westchester Spring Choral Jubilee was held on May 12 at White Plains.

The Mendelssohn Club Chorus of Sunbury, Pa., held its third annual Bach Festival May 11–12.

February saw a festival of Prokofieff's compositions in Denver, Colorado, when the Symphony Orchestra and the String Quartet of that city took part. Harry Ginsburg and the composer himself were soloists at the two festival concerts.

The third annual Three Choir festival on March 25–26 at Temple Emanu-El in New York was given by the Hall of Fame Chorus of New York University under Alfred Greenfield, the Byzantine Ensemble, Christos Vrionides, conductor, and the Emanu-El Choir, Lazare Saminsky, director. Harl MacDonald's "Missa de Battale" had its premiere here, and Josten's "Hymn to the Queen of Paradise" and Harvey Gaul's "L'David Baruch" were also heard. Moore's "Simon Legree," Horace Johnson's "Etain," chorales by Miriam Gideon and Hugo Weisgall, and an organ work by Roger Sessions all had their first New York performances at this time.

The Bethlehem Bach Choir gave its thirty-first performance of Bach's Mass in B minor at its festival which took place May 27–28. Bruce Carey conducted.

May 6 saw the beginning in Washington of a three-day folk festival, each program of which represented a cross section of a definite field of American folk-lore. Five Indian tribes, Mexican-Spanish groups from New Mexico, Texas and Missouri, Mormons from Utah bringing pioneer songs, Dunkards from Maryland, and Plainsong Chanters from Kentucky in religious music, Acadians from Louisiana with "Cajun" music, Pennsylvania Germans, other racial groups, and work songs and ballads of the various trades all shared in the programs.

The eighth annual American Folksong Festival was held at Traipsin' Woman Cabin on the Mayo Trail near Ashland, Boyd County, Ky., on Sunday, June 12, under the direction of Jean Thomas, Kentucky author who founded the festival. The "singin' gathering" included singers, dancers, and instrumentalists, many of whom used home made instruments indigenous to the section.

The Silvermine Guild Music Festival held its second annual festival August 18–21, the chief concerts being given by the New York Philharmonic-Symphony, Ormandy and Iturbi, conductors. Chamber music concerts, choir singing, organ music and community singing were on the various programs.

On June 18 the Pennsylvania Folk Festival was held at Beaver College, Jenkintown, Pa. Choral groups from various parts of the State gathered for the festival.

Albert Riemenschneider directed the sixth annual Bach Festival at Baldwin-Wallace College in Berea, O.

Worcester, Mass. had its 79th music festival October 3–8. The director of the festival was Albert Stoessel, who marshalled a large Festival Chorus and orchestra. Soloists included Bidu Sayao, Albert Spalding and Harold Bauer.

The twenty-sixth Evanston May Music Festival took place May 17, 19, and 21 under the direction of Frederick Stock, Hans Lange and John Beattie. The Chicago Symphony Orchestra, the Festival Chorus, the Children's Chorus and the Northwestern A Cappella Choir shared in the programs which enlisted the services of Agnes Davis, Helen Jepson, Bruna Castagna, Martinelli, Crooks, and William Miller.

The Dunrovin Music Festival took place on June 18 and 25 and July 2 at Ridgefield, Conn. under the auspices of the Chamber Music Society of America. Eddy Brown was the general director of the festival.

ORCHESTRAS IN NEW YORK

The New York Philharmonic-Symphony in May concluded its ninety-sixth season, one of the most successful in its history, with John Barbirolli as conductor. Except for five midwinter weeks when Georges Enesco filled in as guest conductor, the entire season was under the baton of Mr. Barbirolli who was rounding out his first year as permanent conductor. A single leader proved a welcome change from those years when one conductor after another led a reassembled and reorganized orchestra, excepting of course the wonderful appearances of Toscanini which fused and enkindled the orchestra. The concerts for young people were this year conducted by Mr. Barbirolli and Rudolph Ganz during the absence of Ernest Schelling. The latter was unable to conduct the series he has made famous in his many years of able work because of an eye injury. In December, a new American work was presented under Barbirolli, Anis Fuleihan's Second Piano Concerto, with the young composer appearing as soloist.

On Feb. 6, 1938, Toscanini led the N.B.C. Symphony Orchestra and the Schola Cantorum through a performance of Beethoven's Ninth Symphony in Carnegie Hall which was held by critics to be a memorable and historic reading of the great symphony. So successful has been this orchestra under the greatest of living conductors, that N.B.C. plans to keep on with it for at least three years more, for it signed Toscanini for that length of time in the spring.

A concert of American music by Ferde Grofe listed several "firsts," and included three piano preludes by George Gershwin, scored by Mr. Grofe; Cadman's "Trail Pictures"; Grofe's "Tin Pan Alley"; Julian Work's "Wanderlust"; Borodkin's "Synco Rhythmicon" and Wasserman's "Paraphrases for Piano and Orchestra." This was held in New York City.

The New Friends of Music in New York sponsored a new chamber orchestra of young Americans averaging 25 years of age who have had previously little or no orchestral experience, but who were selected by Fritz Stiedry, the director, for their abilities and enthusiasm. A number of these players are young women. The six Brandenburg Concertos and the clavier concertos of Bach occupied them in their first season.

BOSTON

The Boston Symphony Orchestra, Serge Koussevitzky conductor, gave Aaron Copland's rhapsody "El Salon Mexico" its premiere in Boston and then presented it in New York in November. The conductor, who inaugurated his fifteenth year as director of the orchestra, proved as apt a program maker and musician as ever.

Boston, which does not have the young people's concerts usual in other cities with large orchestra, had an interesting experiment launched under the direction of Wheeler Beckett, who secured 70 members of the orchestra for three concerts. These concerts were planned for boys and girls of high school and junior high school ages. With the aid of a generous group of sponsors, Mr. Beckett was able to offer 400 subscriptions at 60 cents for the entire series. These were taken by 25 Boston settlements. About 1,800 seats were taken by pupils in the public schools for $1 for the series and the balance went to the private schools. The concerts are straight concerts, no talking, information about the music to be played being sent in advance to all the young subscribers.

PHILADELPHIA AND CHICAGO

The Philadelphia Orchestra brought a new work to New York when Eugene Ormandy led his players and Georges Barrere, flute, Carlos Salzedo, harp, and Horace Britt, cello, in a triple concerto for the three instruments and orchestra by Bernard Wagenaar. Ormandy's appointment in the late summer to the position of music director for a three-year term made Stokowski's withdrawal from the famous orchestra definite.

Fritz Reiner, staying on as head of the Curtis Institute orchestral department, accepted the conductorship of the reorganized Pittsburgh Symphony Orchestra for a year.

The Chicago Symphony Orchestra, Frederick Stock, conductor, played Gardner Read's First Symphony, which won the New York-Philharmonic-Symphony prize in 1937, in February, continuing the policy of its director in giving American works of merit a hearing. In October Dr. Stock gave its first American performance to Kurt Atterburg's "Ballade and Passacaglia" and to Marcel Poot's "Allegro Symphonique." Hans Lange, associate conductor of the Chicago Orchestra, formed a chamber music ensemble of members of the orchestra to give programs of unfamiliar early music. Mr. Lange directed the regular orchestral concert which brought Paul Hindemith as soloist and composer to Chicago in February. At this time, Hindemith's "Symphonic Dances" had their first American performance.

CLEVELAND AND OTHER CITIES

While Artur Rodzinski, conductor, was absent to act as guest conductor of the N.B.C. symphony orchestra in New York, the podium at Cleveland was filled by Dimitri Mitropoulos, Albert Stoessel and Rudolph Ringwall. Rodzinski, in the spring, signed a contract to remain at Cleveland five years longer, which leaves the orchestra in a position to continue the fine work it has been doing. On Dec. 15, the orchestra gave a premiere performance of Ernest Bloch's new violin concerto, with Joseph Szigeti as soloist.

Ten of the 12 concerts of the Rochester Philharmonic Orchestra for the 1938–39 series were assigned to Jose Iturbi, the other two being assigned to Guy Harrison, Fraser.

Dimitri Mitropoulos began his first full season as conductor of the Minneapolis Symphony Orchestra in November. The concert season in that city includes more than 25 concerts.

Hans Kindler and the National Symphony Orchestra of Washington, D.C., presented a new series of "Children's Concerts for Adults" in addition to their regular concerts. In March, Rudolph Ganz appeared as soloist and conductor, as well as composer, since his "Animal Pictures" were included in the program for which he was scheduled. Isidor Freed's "Pastorales" had its premiere in December. The National Symphony Orchestra this year completed its sustaining fund of $103,000, thereby assuring Washington of the continuance of this fine orchestra. The orchestra gave an operatic program and programs with the Ballet Russe in addition to their regular concerts.

Victor Kolar and Franco Ghione conducted the Detroit Symphony Orchestra during the season. Among the "firsts" was Cattozzo's "Misteri Dolorosi." The Detroit Symphony this season celebrated its twenty-fifth year of existence.

The Indianapolis Symphony Orchestra, Fabien Sevitzky, conductor, enlisted the services of several distinguished soloists, among them Albert Spalding and Richard Bonelli.

The Toronto Symphony Orchestra, Sir Ernest MacMillan, conductor, and the Grand Rapids (Mich.) Symphony Orchestra, Karl Wecker, conductor, gave performances of Wesley LaViolette's "Chorale" during February.

The Seattle Symphony Orchestra, Basil Cameron, conductor, included a performance of Beethoven's Ninth Symphony in its concerts of the season. A chorus of 400 voices sang in the Beethoven.

The amazing spread of symphony orchestras, formed in smaller communities throughout the country, is indicative of the spread of interest in the better type of music. Utica, N.Y., for example, has an orchestra of 87 pieces, a chorus of 150 members, and a band of 57 pieces. The Kalamazoo (Mich.) Symphony Orchestra has 85 players and is conducted by Herman Felber, Jr.

The Harrisburg Symphony Orchestra, George Raudenbush, conductor, presented a premiere in March of Mary Lucas's "Concert Overture," and in November of R. Dean Shure's Symphony No. 4, Choric. The Youngstown Symphony Orchestra, under Carmine Ficocelli, was heard in a series of concerts. In Baltimore, Werner Janssen directed the Symphony Orchestra.

The Kansas City Philharmonic Orchestra continued to flourish under Karl Krueger, who has signed a contract for three more years and listed among its American "firsts" Bax's "Fantasy for Viola and Orchestra," the prelude and dances from Reti's "David and Goliath" and Heller's Pastorale and Scherzo. At St. Louis, Vladimir Golschmann continued to conduct the orchestra at home and on tours in a successful season. The New Orleans Civic Symphony Orchestra was led by Arthur Zack. Stephen Deak led the Hagerstown (Md.) Symphony Orchestra in its series of four concerts.

The New Jersey Symphony Orchestra under René Pollain concluded a successful season.

The Dallas Symphony Society enjoyed a successful season under Jacques Singer, who has been signed up for three years of 20-week seasons.

The Germantown Orchestra, conducted by N. Lindsay Norden, and the Cranford Symphony Orchestra under Charles H. Seyfried had successful short seasons.

The Vermont Symphony Orchestra, Alan Carter, conductor, Paul Pelton and Joseph Lechnyr, associate conductors, closed its season of subscription concerts in May.

The Houston Symphony Orchestra was directed by Ernst Hoffman.

The Birmingham Civic Symphony Orchestra again was led by Dorsey Whittington.

The Chautauqua Symphony Orchestra, Albert Stoessel, conductor, listed a generous number of works by American composers on the programs given during July and August.

The Buffalo Orchestra, Franco Autori, conductor, added an extra program, which included a large children's chorus, to its regular series of 12 concerts.

In Columbia, S.C., Hans Schwieger organized a symphonic ensemble, as well as a large community chorus, both the outgrowth of his work in the annual Columbia Music Festival.

The New Haven Symphony Orchestra completed a very successful season under Richard Donovan as conductor. The Hartford Symphony Orchestra began its season in October under a new conductor, Leon Barzin.

The Duluth Symphony Orchestra, Paul Lemay, conductor, began its sixth season with a good list of soloists and a sizeable list of concerts.

SUMMER CONCERTS

The Stadium Concerts, Inc., New York, in line with the long-followed custom of launching or encouraging young men with a flair for the baton, secured Massimo Freccia and Macklin Marrow for stadium debuts during the summer. Iturbi, Ormandy, Kindler, Paul Kerby, Raudenbusch, Barzin, Barlow, Smallens and Hoogstraten all were given early opportunity as conductors at these concerts. The Goldman Band, Edwin Franko Goldman, conductor, played, as in previous years, in Central Park and in Prospect Park, Brooklyn throughout the summer.

Summer brought to Boston its splendid Pops concerts, Arthur Fiedler conducting them through May and June. Then came the Esplanade concerts, these, too, from the baton of Mr. Fiedler who has now come to be a standby in Boston.

The Essex County Symphony Society gave four concerts in June in Newark, N.J. at the City School's Stadium, Alexander Smallens, conductor.

The Los Angeles Philharmonic began its summer season of eight weeks in the Hollywood Bowl on July 12.

The Maverick Little Symphony Orchestra, Henry Lynes, conductor, began its series of summer concerts July 4 at Woodstock, N.Y.

The summer season of the Cincinnati Zoo Opera Company brought an operatic debut for James Melton, American tenor.

One of the most ambitious summer projects stems from Westport, Conn. where the Connecticut Society of Friends of Music sponsor a series of concerts at Longshore Lagoon which its supporters hope will become the Salzburg of America.

SOLOISTS

Efrem Zimbalist, violinist, offered an interesting series of five concerts in New York in the course of which he traversed all the violin sonatas of Bach, Beethoven and Brahms. These concerts began in October.

In September Josef Hofmann, eminent pianist, for 12 years director of the Curtis Institute in Philadelphia, withdrew from that position, presumably in order to devote himself more completely to composing and performing.

Emanuel Feuermann appeared at a special series of four concerts with the National Orchestral Association, Leon Barzin, conductor, during February and March, and played 13 outstanding works for cello. These included the Toch concerto, Weber's "Konzertstück" and Arnold Schoenberg's First Concerto.

A jubilee concert in New York on Nov. 13 climaxed a series of social events which marked the celebration of the fiftieth anniversary of the first American appearance of Moriz Rosenthal, the pianist.

Feodor Chaliapin, the great Russian basso, whose most famous part was acting and singing in the title role of Mussorgsky's opera, "Boris Godunoff," died in February. His death stimulated the movement for a revival of the famous opera at the Metropolitan in New York.

COMPOSERS

During February, plans were completed for the formation of a body to be known as the American Composers' Alliance, the purpose of which is to be the protection of the American composer and assure him a reasonable return for his creative product. It is hoped that a plan may be worked out by which a composer may receive royalties when his compositions are performed. The names of many of the recognized contemporary composers of this country are included in the list of the organizing committee.

The premiere of Aaron Copland's "An Outdoor Overture" was played in December at the High School of Music and Art by the school orchestra under the direction of Alexander Richter.

Harl MacDonald's work for women's chorus and orchestra, "Lament for the Stolen," received its world premiere Dec. 30, when the Philadelphia Orchestra played it. The choruses assisting were the University of Pennsylvania's Women's Chorus, the Mendelssohn Club Chorus, and the Women's Chorus from Chestnut Hill.

Mailamm, the Palestine-American association, sponsored two concerts by contemporary Jewish composers at Town Hall in New York in February and March. The first program included Rosowsky's "Fantastic Dance," Jacobi's Second String Quartet, Achron's "Symphonic Variations" on a Palestinian theme and songs from various hands. The second program comprised works of Ernest Bloch. The participants in the concert included Grete Stueckgold, Emanuel List, Piastro, Schuster, Achron, the Perolé Quartet, Friedrich Schorr and Frank Sheridan.

Paul White, associate conductor of the Rochester Civic Orchestra, wrote "Four Boston Sketches" which was played by the Boston Symphony Orchestra under Arthur Fiedler in the Pops concerts. Mr. White's suite, "Lake Spray," was given its premiere at the Lewisohn Stadium in July by the New York Philharmonic-Symphony under Iturbi.

COMPETITIONS

David Van Vactor's Symphony in D won the $1,000 prize in the second annual competition of the New York Philharmonic-Symphony Orchestra and was slated for performances by the orchestra which sponsors the competition under the direction of John Barbirolli and also by Rodzinski at Cleveland.

William Schuman of the faculty of Sarah Lawrence College won the first prize in the contest held by the Musicians Committee to Aid Spanish Democracy for his "Second Symphony." In this same contest, David Diamond of Rochester received honorable mention for his "Overture for Full Orchestra."

John Bitter, conductor of the Jacksonville Symphony Orchestra, won the composition contest conducted by the Allied Arts Society of Winter Park, Fla., with his "Serenade for Orchestra," written in 1935.

The first winner of the Town Hall Young Artist Award was Rosalyn Tureck, 23-year-old American pianist, for her notable performance in Town Hall during the season when she played all the 48 preludes and fugues of Bach's "Well Tempered Clavichord," as well as other works by that composer in the course of six recitals.

CHORAL

The Schola Cantorum under Hugh Ross performed two new works, Arnold Bax's motet "This Worldes Joie" and "The Deeds of the Holy Brothers Cyril and Methodius," a cantata by Bozidar Sirola. Delius's "The Mass of Life" was given its first American performance in January by the Schola Cantorum under Hugh Ross. At the same time, Vladimir Dukelsy's "The End of St. Petersburg" received its first New York hearing.

During a magnificent performance of Bach's "Passion according to St. Matthew" at Symphony Hall in Boston, directed by Serge Koussevitzky with the Boston Symphony Orchestra, an organ, a harpsichord and a large chorus from the Radcliffe Choral Society and the Harvard Glee Club all taking part, the Victor company secured a complete transcription of the music. The entire set runs to 53 sides and has been released in three albums.

RADIO MUSIC

In the course of a year during which tense historical events crowded the wave lengths, there still was plenty of time for those performers of swing music who lead the youth and the middle age of America in a swirling maze of jitterbug music. There was room, too, for the vast audiences who want symphonic, operatic and concert music. For them there were Toscanini, the Metropolitan Opera, the New York Philharmonic, Alfred Wallenstein's splendid programs. This year the latter have brought, among other fine masterpieces, the Bach cantatas. The Sunday evening concerts corral the best soloists on the air, as well as bringing first rate symphony concerts. Fewer sponsors of top notch programs, however, engaged the expensive service of noted singers or other soloists. The emphasis has been rather on orchestras and ensembles of various sizes in programs of a more intellectual nature, and the group rather than soloists has been stressed.

THE THEATRE

By Jack Gould

Drama Department, *The New York Times*

THE PRODUCTION PHASE

If quantity is the criterion, 1938 in the theatre must be recorded as another lean year. If it is quality, 1938 may be the corner which supporters of the theatre have long hoped it would round. A note of departure from the hackneyed commercial practices was sounded by several adventurous individuals of the stage and it was heard by the theatre-going public, if interest at the box-office is admissable evidence. Plays of an unusually serious nature for Broadway returned to favor almost simultaneously with a resurgence in musical comedy. Dramatic comedies were at a premium. Novel production techniques proved successful and several new personalities came to the fore.

An outstanding development of the year was the formation of the Playwrights Producing Company, consisting of Robert E. Sherwood, Elmer Rice, Maxwell Anderson and Sidney Howard, all Pulitzer prize winners in drama, and S. N. Behrman. By producing their own works and eliminating the need for a producer *per se* they gained the consequent financial savings and freedom of action. The company's initial productions indicated success for the venture. The Mercury Theatre, which started so illustriously last year with its modern version of "Julius Caesar," entered the new year auspiciously with a production of "The Shoemaker's Holiday" but fared ill with "Heartbreak House" and "Danton's Death." As the year drew to a close it had to sub-lease its theatre and its future was an unknown quantity.

THE BUSINESS PHASE

The business side of the theatre was not immune to change, either. The League of New York Theatres, the organization of producers and managers, and the Actors Equity Association executed a contract, effective in September, 1938, under which the League would attempt to bar speculation in the sale of tickets. Equity, as the ultimate enforcement agency by reason of its closed shop, agreed to deny a producer the service of its members if he were found to have condoned speculative practices knowingly. The ticket brokers were forced to become a party to the contract under pain of not receiving tickets to the successful shows. The effort to control speculation had not been tried long enough by the end of the year to determine its chances of success. Reports of benefits and disadvantages were about equal in number. In exchange for agreeing to check speculation, the League received a one-year agreement from Equity under which producing conditions would be stablized for that period.

The first strike which the theatre had in many years occurred in January, 1938. In a dispute with the New York Theatrical Press Representatives, whom it subsequently absorbed, the revitalized Theatrical Managers, Agents and Treasurers Union, an A. F. of L. affiliate, posted pickets at the houses. The Teamsters Union, in a gesture of sympathy, refused to move scenery through the picket lines. The inter-union feud was finally settled with a closed-shop contract granted by the producers' League. Three more classifications of workers—box-office treasurers, house managers and press agents—were covered in an industry already unionized to the hilt.

The American Theatre Council held its second annual convention in September but, aside from the untested ticket code, it had little to show for the first year of its existence. The second convention adopted a lengthy platform, the principal plank being to stimulate a revival of the road, but plans had not gone beyond the talking stage by the end of the year. In the trade organizations there were these new faces: Arthur Byron as president of Actors Equity, succeeding Burgess Meredith who filled the post temporarily after the resignation of Frank Gillmore; and James F. Reilly as executive secretary of the League of New York Theatres.

PRIZES

The Pulitzer prize for drama was won by Thornton Wilder for "Our Town." In 1928 Wilder won the Pulitzer prize in letters for *The Bridge of San Luis Rey*. Produced and staged with uncommon appreciation by Jed Harris, "Our Town" was heralded as a major triumph of the modern stage. It was presented without scenery or a curtain and told of the "Life," "Love" and "Death" of a generation in Grovers Corner, N.H. The simple way of life in a typical American town served Mr. Wilder as the medium for a profound and beautiful exposition of familiar truths that know no boundaries in their application to the human being. Frank Craven played the part of stage manager, commentator and philosopher who set the bare stage for the performance and explained the action. To it he brought a sincerity and understanding of major consequence to the play's successful projection. For two weeks Mr. Wilder himself played the part and was cordially received by the critics. Mr. Craven's son, John, and Martha Scott, as the boy and girl whose lives are those of Grovers Corner, gave a hauntingly-moving portrayal of youth and in other parts Jay Fassett, Evelyn Varden, Thomas W. Ross and Helen Carew contributed to the effectiveness of the whole. "Our Town," opening in February, played 331 performances on Broadway.

For the third year, the Drama Critics Circle disagreed with the Pulitzer prize committee, awarding its plaque to "Of Mice and Men," the John Steinbeck dramatization of his novel, which was presented in November, 1937 and was described in this report for that year. While the award of the Pulitzer prize of "Our Town" unquestionably accounted for its prolonged engagement, the box-office effect of the critics' award was not sufficient to extend the run of "Of Mice and Men" beyond a month. Extenuating circumstances prevented any final comparison, however, as reflected by consequent public interest, as to which is the more important award. "Of Mice and Men," with many changes in its original cast, toured on the road during the latter half of 1938.

NEW AMERICAN PLAYS

"Abe Lincoln in Illinois."—In the first production of the Playwrights Producing Company, Robert E. Sherwood traced Lincoln's career from the time he was a youth in Springfield, Ill. to his departure for the White House in Washington. Lincoln's lassitude as a young lawyer, his early indifference to slavery, his relationships with Mary Todd and Ann Rutledge, his final conversion to the ideal of a constructive life were among the aspects of the Emancipator's career covered in what was widely considered Sherwood's best play to date. Raymond Massey, a Canadian-born actor, portrayed Lincoln in one of the finest sustained performances of the year. Muriel Kirkland played Mary Todd and Adele Longmire the part of Ann Rutledge. Elmer Rice directed.

"American Landscape."—This play, a passionate if not altogether theatrically-valid defense of democracy, brought Elmer Rice back to the stage as an author after his famed denunciation of the critics and the theatre as a whole some years earlier. It told the story of a Connecticut manufacturer on the verge of selling his factory to a larger, competing combine and his home to a Nazi organization. His family and his ancestors, the latter appearing on the stage as ghosts, protest, and he dies before he has a chance to complete the sales. There was little to disagree with what Mr. Rice had to say but considerable with the way he chose to say it. Charles Waldron played the part of the manufacturer in "American Landscape" which was the third production of the Playwrights Company.

"On Borrowed Time."—As dramatized by Paul Osborn, the Lawrence Edward Watkin story of the old gentleman who chased Death up a tree until he had finished raising his grandson, was the most successful comedy-fantasy of the year. With the veteran Dudley Digges giving a rich performance as Gramps and three amazingly skillful youngsters, Peter Holden, Tommy Lewis, and Lawrence Robinson, alternating in the role of Pud, the grandson, it avoided any semblance of the tawdry and remained an engaging fable which treated of Death with kindness and not with gloom. Jo Mielziner contributed some of his best sets to the play which also served to bring Joshua Logan to the forefront of directors.

"Kiss the Boys Goodbye."—The acidulous Clare Boothe, who two years earlier had unloosed her venom against "The Women," directed her attention this time to the problem of casting the film version of Margaret Mitchell's novel *Gone With The Wind*. It was chiefly amusing for many biting caricatures of persons often mentioned in the public prints and vibrated with pungent wisecracks which, unrelieved, tended ultimately to weaken the play. Helen Claire, a new-comer, achieved notice as the young Southern girl turned free in a Westport, Conn. house filled with a motion picture producer, a left-wing columnist, an aging screen star and others of the cafe society ilk. It was produced by Brock Pemberton.

"What A Life."—Once again George Abbott's aptitude for comedy direction was manifest in Clifford Goldsmith's pleasant portrait of a high school boy always finding himself in hot water. Mr. Abbott's ingenuity counterpointed the vagaries of the script, and the product provided laughs of recognition and amusement for the grownups in the audience. Ezra Stone, a member of the Abbott acting company, playing his first leading part, easily justified Mr. Abbott's confidence in his ability.

"Here Come The Clowns."—Philip Barry's metaphysical study of a vaudeville stagehand in search of God was one of the most provocative works of the year. Most of the critics admitted to confusion at the premiere but many were sufficiently impressed to take the unusual step of seeing and reviewing it a second time. Mr. Barry argued that a man's discontent or happiness was of his own making and that man's free will was essential for discovering Truth, or God. Eddie Dowling, who also produced the play, had the rôle of Clancy, the stagehand, and his moving characterization was an acting contribution of importance. Other fine performances were given by Russell Collins as the cynical press agent, Leo Chalzel as the illusionist, and Jerry Austin as the dwarf.

"Rocket To The Moon."—The Group Theatre's principal member-playwright, Clifford Odets, wrote this time of a middle-class dentist torn between love of a shrewish wife and his young secretary. It provided new evidence of Mr. Odets' gift for dialogue and resounding dramatic impact but it was considered ill-sustained and suffered by comparison with his "Golden Boy" of last year. Morris Carnovsky endowed the rôle of the dentist with honest emotion and compassion in one of his best performances under the Group standard.

Others.—"The Greatest Show On Earth" by Vincent Duffy and Irene Alexander, a comedy about the revolt of the animals in a circus with the actors playing the parts of animals; "Yr Obedient Husband," Horace Jackson's "sentimental comedy" based on the lives of Richard and Prue Steele, with Fredric March and Florence Eldridge in the leading roles; "Tortilla Flat," a tawdry dramatization by Jack Kirkland (who wrote the play version of "Tobacco Road,") of the John Steinbeck novel about a group of hoboes; "All That Glitters," a comedy by John Baragwanath and Kenneth Simpson, which told of the efforts to lift a trollop to high society; "If I Were You," a farce by Paul Hervey Fox and Benn W. Levy, suggested by a Thorne Smith novel, with Constance Cummings (Mrs. Levy) in the leading rôle; "How To Get Tough About It," the story of two idealists, played by Katherine Locke and Myron McCormick, in a Middle Western industrial community, and "Casey Jones," a saga of railroading with excellent sets by Mordecai Gorelik and Charles Bickford in the role of an engineer, both by Robert Ardrey who gave promise as a rising young playwright; "Wine of Choice" by S. N. Behrman, a Theatre Guild production of a conversational comedy about life among the Long Island set, with Alexander Woollcott, the critic and commentator, in the cast; "Schoolhouse on the Lot," a Joseph A. Fields and Jerome Chodorov comedy about a Hollywood moppet, with Robert H. Harris giving an inspired performance as a producer; "All the Living," Hardie Albright's dramatization of the Victor R. Small book *I Knew 3,000 Lunatics*, the season's most realistic drama and a vivid kaleidoscope of life in an insane asylum, with excellent sets by a new-comer, Harry Horner, and superb direction by Lee Strasberg; "Missouri Legend," Elizabeth B. Ginty's comedy on the career of Jesse James, with a lusty portrayal of the immortal bandit by Dean Jagger; and "Waltz in Goose Step" by Oliver H. P. Garrett, an anti-Nazi play which failed to break the theatrical jinx against successful portrayal of the Fascist dictatorship problem. A few of the aforementioned productions were moderate successes but the vast majority closed after brief runs, emphasizing the fact that critical and box-office judgment now decree that a presentation must either be an outright hit or repair to the warehouse.

SHAKESPEAREAN REVIVALS

"Hamlet."—As presented in its entirety by Maurice Evans who last year scored a success with the seldom-produced "King Richard II," this was close to the top of major theatrical events of the year. The performance started at 6:30 p.m. and lasted until 11:30 p.m., with an hour's intermission for dinner. Although there had been doubts whether such a marathon would prove commercially feasible, it enjoyed a highly-successful run, starting Oct. 12, 1938 and not finished with the close of the year. The full-length "Hamlet" impressed its audiences as almost a new play in comparison with the shortened version and, in the arduous rôle of the Prince of Denmark, Mr. Evans broke with the traditions that had been imposed on Hamlets and gave a performance which was new, modern and exciting for all the four hours of playing time. He was supported by an able cast including Mady Christians as the Queen; George Graham as Polonius; Augustin Duncan as the Ghost of Hamlet's father; Katherine Locke as Ophelia; Henry Edwards as the King, and Whitford Kane as the gravedigger. Margaret Webster's imaginative direction was of vital import to the precedent-breaking production.

"The Merry Wives of Windsor."

—This seldom-produced work of the Bard was a quick failure, receiving a hurried and clumsy production at the hands of Robert Henderson who directed, and Estelle Winwood who played Mistress Page.

"Coriolanus."—Charles Hopkins directed his acting version of Shakespeare's tragedy. Sponsored by the New York State Federal Theatre for a limited engagement, it was accepted as a serviceable production with a company that was both fresh and alert.

OTHER REVIVALS

"The Shoemaker's Holiday"—The Thomas Dekker comedy was the Mercury Theatre's first offering of the year and the contrast between the bit of Elizabethan fooling and the Mercury's earlier "Julius Caesar" attested to the group's versatility. It was stripped of scholarly attributions by Orson Welles and made into an uproarious jig. Hiram Sherman emerged as a comedian of the first rank in the revival and others in the cast included Marian Warring-Manly, Whitford Kane, Vincent Price, Edith Barrett and Norman Lloyd.

"Murder in the Cathedral."—T. S. Eliot's play of Thomas à Becket, Archbishop of Canterbury, was presented by an English company under the auspices of Gilbert Miller and Ashley Dukes. It had been presented two years earlier by the Federal Theatre, and the consensus of critical opinion was that the English version compared unfavorably thereto, lacking the sharply-designed production of the earlier presentation. Robert Speaight, as Thomas, gave an exalted interpretation of the principal part.

"The Sea Gull."—Anton Chekhov's play, or perhaps more specifically its starring cast, Alfred Lunt and Lynn Fontanne, was one of the Theatre Guild's few successes of the season. Some critics argued that it was more Lunt and Fontanne than Chekhov but it sold out for its limited engagement. In the supporting cast Margaret Webster stood out, and Robert Milton's direction was animated and sure.

"The Circle."—The imperishability of the Somerset Maugham drawing-room comedy was the outstanding feature of the revival with Grace George, Tallulah Bankhead, Dennis Hoey, John Emery and Cecil Humphreys. Seventeen years after its premiere the story of Lord Porteous and Lady Kitty running off together retained its appeal. It was revived by the veteran producer, William A. Brady.

"The Wild Duck."—Henry Forbes's revival of the Ibsen play defied analysis or comment because its cast could not be heard further than the first row. It closed almost immediately.

"Heartbreak House."—George Bernard Shaw's chronicle of the post-war period received a conventional production from the unconventional Mercury Theatre. Its garrulity found small favor with audiences, however, and it was not a success. Orson Welles gave an adequate performance as Captain Shotover but as the captain's daughter Mady Christians was accorded the chief plaudits.

"Lightnin'."—The Winchell Smith-Frank Bacon comedy success was brought back by John Golden with Fred Stone, the veteran song and dance man, in the rôle of Lightnin' Bill Jones created by Mr. Bacon 20 years earlier. The script did not altogether hide its 20 years but the simple emotions and wholesome humor of "Lightnin'" met with warm appreciation.

"Victoria Regina."—Helen Hayes returned to Broadway for her third appearance in the Laurence Housman play and was greeted with unanimous approbation that called attention to the enrichment which she had added to her performance. Werner Bateman played Prince Albert, the part created by Vincent Price, and demonstated that he was a performer of the first order.

"Danton's Death."—Georg Buchner's play on the French Revolution, as seen through the eyes of the revolutionists, was more a demonstration of Orson Welles's mastery of direction and lighting than an attention-holding projection of the script. Martin Gabel, Morgan Farley, Vladimir

Sokoloff, Mr. Welles and Eustace Wyatt were in the cast.

"Outward Bound."—The newly-formed Playhouse Company, named for its predecessor of a decade ago at William A. Brady's Theatre, started with an all-star revival of Sutton Vane's "Outward Bound" which was shown to have withstood the ravages of time and remained an appealing fantasy. Laurette Taylor's performance as Mrs. Midgit, the warm-hearted woman from the slums who was among the cargo of dead on their boat trip to the Beyond, was little short of magnificent, and Bramwell Fletcher scored a major acting triumph as the hysterical drunk. Others in the cast were Florence Reed, Morgan Farley, Helen Chander, Alexander Kirkland and Vincent Price.

IMPORTED PLAYS

"Shadow and Substance."—A beautiful play about Ireland by Paul Vincent Carroll, it won the prize of the Drama Critics Circle for the best foreign work of the 1937–38 season. It was a glowing portrait of Canon Skerritt, beautifully enacted by Sir Cedric Hardwicke, whose intellectual snobbery and impersonal devotion to the Church is softened by the gentle Brigid, a maid servant who has holy visions. Julie Haydon played the maid with intense luminosity and Sara Allgood contributed an inspired portraiture of an Irish country woman.

"Oscar Wilde."—From London's Gate Theatre where productions avoid the censoring hand of the Lord Chamberlain, arrived Norman Marshall's tasteful production of the Leslie and Sewell Stokes episodic biography of the English wit and author of "The Importance of Being Earnest." Based largely on the Frank Harris biography it was distinguished chiefly for a masterful performance by Robert Morley as Wilde.

Other Plays from England.—The theatre by the Thames also sent to New York the Mazo de la Roche dramatization of her own novel, *Whiteoaks of Jalna,* under the briefer title of "Whiteoaks," in which Ethel Barrymore returned to Broadway with an excellent character performance as the 101-year-old Gran Whiteoak; "Bachelor Born," a light and agreeable comedy by Ian Hay, which told of the trials and tribulations of an English school master, played by Frederick Leister; "Glorious Morning," a tragedy of religious worship in a totalitarian state, by Norman Macowan; "Spring Meeting," a sprightly and impish comedy from the pen of M. J. Farrell (Mrs. Robert Keane) and John Perry, which dealt of a giddy Irish family and boasted attractive performances by Gladys Cooper, Jean Cadell and A. E. Matthews; "Time and the Conways" and "I Have Been Here Before," two commercially unsuccessful treatises on the time theory by J. B. Priestley. Frederick Lonsdale, the English playwright, contributed "Once Is Enough," which had Ina Claire in the starring role.

From the Continent, *via* London, there was "Gloriana," Ferdinand Bruckner's first play to be produced in New York, which in Berlin appeared under the title of "Elizabeth von England." From France came "The Man From Cairo" by Yvan-Noe which Dan Goldberg adapted; "Dame Nature," adapted by Patricia Collinge from the Andre Birabeau original, which the Theatre Guild presented; and Marcelle Maurette's "Madame Capet," adapted by George Middleton, in which Eva Le Gallienne played Marie Antoinette. Jacques Deval, the French author, contributed "Lorelei," an anti-Nazi sermon, which he wrote in English. All five of the aforementioned importations were failures.

SPECTACLE AND MUSIC

"Knickerbocker Holiday."—The second production of the Playwrights Company, it marked the debut of Maxwell Anderson in the field of musical comedy. His book was on the pedantic side but the lyrics which he wrote for Kurt Weill's beautiful and varied score achieved a new and refreshing note of intelligence for the musical stage. As the one-legged Pieter Stuyvesant about whom Mr.

Anderson's early history of Manhattan revolved, Walter Huston, more recently identified with dramatic attractions, gave a salty and winning performance, singing attractively and pirouetting on his peg-leg. Joshua Logan directed and Jo Mielziner did the settings.

"The Boys From Syracuse."—With a bow to Shakespeare's "The Comedy of Errors," from which they retained one line, Richard Rodgers and Larry Hart fashioned one of their best scores and George Abbott a serviceable book for this story of the Antipholus and Dromio twins. George Balanchine gave further evidence of his mastery of original musical comedy ballet and Jimmy Savo and Teddy Hart, as the Dromios, rollicked through the book with disarming expertness. The cast included also Wynn Murray, Muriel Angelus and Marcy Wescott.

"Hellzapoppin." — Warmed-over vaudeville nonsense, featuring two veterans of the four-a-day, Ole Olsen and Chic Johnson, it proved the freak attraction of the year. Almost unanimously disliked by the critics, it won instant favor with the public, constituting one of the few occasions when the two bars of opinion were not in agreement. Every type of practical joke, clowning and monkey shines, which vaudeville had known for years, was incorporated in the helter-skelter revue and its wide popularity foretold a possible revival of variety.

"Leave It To Me"—Victor Moore and William Gaxton were reunited in this one, adapted from the Samuel and Bella Spewack earlier dramatic comedy, "Clear All Wires." Cole Porter contributed a sparkling score. It also served to establish a newcomer, Mary Martin, and a veteran night-club singer, Sophie Tucker, on the musical comedy stage.

"I Married An Angel."—Richard Rodgers and Larry Hart demonstrated anew their versatility, adapting John Vaszary's Hungarian play into a vehicle for bringing an angel to earth where she must solve mortal problems. The exponent of other-worldliness was portrayed by Vera Zorina, a ballet dancer, whose performance lifted her immediately to the Broadway heights. Vivienne Segal and Audrey Christie were discovered to be comediennes of a high order, and Charles Walters joined the ranks of accomplished solo tap dancers. George Balanchine's snow ballet and a satire on the Radio City Music Hall were individually the most popular numbers. Joshua Logan directed and John Hambleton did the costumes.

Other Shows With Music.—Remembering the success of their topical revue of last year, "Pins and Needles," Harold J. Rome and Charles Friedman, with assistance from George S. Kaufman, wrote "Sing Out The News." Lacking the spontaneity and freshness of their first work it suffered by the inevitable comparison. Philip Loeb, Herman Sherman and a troupe of energetic and tuneful Negroes were in it. "You Never Know," a commonplace tale of a butler and his master who switch jobs, briefly reunited Clifton Webb and Libby Holman. Cole Porter's score was not considered up to his standard. "The Fabulous Invalid," a cavalcade of the American theatre by George S. Kaufman and Moss Hart, was theatrically poor evidence of the authors' contention, that the theatre never dies, except for the settings by Donald Oenslager and montages depicting the climaxes of yesterday's successes. "Knights of Song," a musical biography of Gilbert and Sullivan, needed the lilt and wit of its central characters, and "The Two Bouquets," Eleanor and Herbert Farjeon's satirical operetta on a Victorian romance, lacked the necessary sting and failed to repeat its London success. Leonard Sillman's "Who's Who," which displayed the comic abilities of Rags Raglund, of burlesque, found Elsa Maxwell, the professional hostess, as its nominal producer.

THE FEDERAL THEATRE PROJECT

The WPA Federal Theatre maintained in its third year its reputation for being the most active producer, presenting 58 shows, of which 31 were new and 27 were carried over from 1937. The total included Broadway productions, marionette and children's theatre offerings, circuses, outdoor summer presentations and revivals in communities. The New York project gave 4,097 performances to a total audience of 2,964,001.

Although still troubled by intra-project administration controversies, the Federal Theatre escaped personnel cuts during the year, employing a total of 9,170 persons throughout the nation and 4,470 in New York City. The project clashed again with the commercial theatre managers over its invasion of the Broadway district but there was no concrete outcome from the dispute over alleged governmental competition with private industry.

At one time during the year the project boasted of four hits on Broadway for the first time in its career. They were "...one-third of a nation. . . . ," a vivid Living Newspaper treatment of the housing problem; "Haiti," by William Du Bois; "Prologue to Glory," dealing with Abraham Lincoln, by E. P. Conkle, and Shaw's "On The Rocks." "Big Blow," Theodore Pratt's dramatization of his own novel which dealt with a Middle Western family settling down in the Florida hurricane country, was also a success.

SUMMER THEATRES

The Summer theatre industry enjoyed a generally favorable season, a total of 84 companies throughout the United States falling under the jurisdiction of Actors Equity which now rules the barnyard enterprises with the same diligence as it does the Broadway houses. The figure represented an increase of about 30 over that for 1937. As in the past, revivals of Broadway successes constituted the majority of bills, Mark Reed's "Yes, My Darling Daughter" receiving the greatest number of productions. Some 70 new plays were tried out and a larger percentage than last year reached the Rialto. Those arriving before the end of the year—"A Woman's A Fool To Be Clever," "Ringside Seat" and "Dame Nature"—were all failures, however, and the summer stock companies did not receive from motion picture scouts and play agents the attention which was formerly accorded them.

MOTION PICTURES

By Frank S. Nugent

Motion Picture Critic, *The New York Times*

THE INDUSTRY

Few years have been more frightening to the American motion picture industry than 1938; few more deservedly so. No branch of the industry was at ease. Panic for a time gripped production, hysteria touched exhibitors, dread froze the distributors. Out of sheer desperation finally, the experts put their heads together and adopted a slogan. They began calling the 1938–39 season "Motion Pictures' Greatest Year" and added, almost wistfully, the catch-phrase, "motion pictures are your best entertainment."

Since this is to be a formal report, it must have a statistical beginning. The figures, if the industry's tabulators are to be believed, are more reassuring than the facts. The total cost of American film production in 1938 was placed at $165,000,000, only $5,000,000 lower than that of the previous year. Probably the estimate is high. Total admissions paid at the box-office weekly were said to be 80,000,000, again a 5,000,000 drop from 1937—and again probably too optimistic a report. There was a slight decrease in the number of feature films produced and an increase in the number of shorts. The sum of $20,000,000 went into new theatre construction and re-construction; as the year ended, about 200 fewer theatres were in operation than had been on Jan. 1.

Against this mildly pessimistic table, which indicates that Hollywood was barely touched by the recession, are a few facts which can not be hidden by the bookkeepers; they were visible to the naked eye of film reviewers, filmgoers and readers of newspapers as the year progressed. They can be described roughly, and roughly they will have to be, as Red Letter Days in the Hollywood Calendar, the color red being employed, in this instance, in its book-keeping capacity and not to mark off holidays.

DEATH AT THE BOX-OFFICE

The year began promisingly. Attendance was on the rise, the quality of pictures was satisfactory, producers were proudly announcing dozens of $1,000,000 films. In April stocks began reaching for bottom. The amusement business notoriously reflects general business conditions. Simultaneously Hollywood happened to be releasing some of the year's worst pictures. It was a combination in annihilation of trade; the box-office fell off horribly and continued to drop through the summer. Theatre men took full-page advertisements demanding relief from stars who were (they said) "poison at the box-office." Frightened and anxious, the producers shelved their projected $1,000,000 epics and indulged in a period of retrenchment. Unemployment fell blightingly upon scores of well-known players, writers and directors; it engulfed the extras and technicians.

Robert Edmond Jones, the stage and screen designer, chose this unhappy moment to tell the National Board of Review that within 25 years there would be movies that could be "felt and smelled" as well as heard and seen. Mr. Jones was predicting inventions and technical improvements; casual listeners might have been pardoned for believing he was speaking only as a critic. Pictures generally were so bad at the time that theatre men, in sheer desperation, resorted to revival programs. Rudolph Valentino's "The Sheik" and "Son of the Sheik," and a twin-horror-bill of "Dracula" and "Frankenstein" were the biggest money-makers of the season. About 80 other films of the past were taken from their shelves, dusted off and sent out into the screen world again.

THE HEAVY HAND OF GOVERNMENT

Adding to the general disorder, the Government began to interfere. A Senate sub-committee reported favorably on the measure known as the Neely-Pettingill bill. Senator Neely believes the trade practices known as block booking and blind buying are behind all the ills of the industry; his bill seeks that elimination. It is a bill that the Hays office has been fighting for years, in one form or another. Much to everyone's amazement, and to the producers' dismay, the measure passed the Senate and is to come up before the House in its current session. If it is enacted, producers will no longer be permitted to sell their film blocks, sight unseen, to theatre men. Each picture must be offered separately, with a full and true synopsis. Exhibitors will be enabled to shop around for their pictures, instead of having to take the bad pictures as a condition for getting the good.

Threatening as this was to the industry, it was only a minor worry compared with the Federal suit in equity brought in New York against the eight major producing corporations, accusing them of violation of the Sherman Anti-trust Act by their control of the three major branches of the business—production, distribution and exhibition. Will H. Hays, president of the Motion Picture Producers and Distributors of America, sheepishly said the industry welcomed the suit, hoped it would clarify the anti-trust laws in their application to the film industry, and offered the industry's full cooperation.

It is doubtful whether anyone were deceived. Separation of production and exhibition would be more than a monkey-wrench in the Hollywood machine; it would be like oiling it with nitroglycerine. Producers directly own or control more than 3,000 of the nation's theatres. Those 3,000 are the biggest and the best, with minor exceptions. Through this control and through its value as a bargaining weapon, the major producers have been able to guarantee the market for their pictures, good or bad, big or small. Through this assurance, in turn, they have been emboldened to make huge investments in their films. A picture costing $2,500,000 is a risky enterprise at best, but the risk is not so great when the producer is sure of his outlets. Once these have been taken from his control and he is forced to offer his picture on its merits, he will be less inclined to "shoot the works" on a single film.

The suit is scheduled to come up in 1939. A decision against the producers might well revolutionize the industry. It would have far greater effect than passage of the Neely bill, the Supreme Court's upholding of the North Dakota chain-divorcement statute (which makes it illegal for a producer to own theatres in that State), and similar actions instituted in 1938 in a scattering of other States and cities.

PUBLICITY CAMPAIGN

It was at this propitious moment, or thereabouts, in the year's hectic course that a group of the industry's public relations experts put their heads together and worked out the $1,000,000 publicity, advertising and exploitation campaign designed to convince a skeptical world that "Motion Pictures Are Your Greatest Entertainment." Feature of the campaign was a $250,000 prize contest. Booklets were distributed free in the nation's 17,000 theatres containing simple questions about 94 feature films. A typical question would be: "In 'Hold that Co-Ed' John Barrymore plays (check one) a governor, a senator, a mayor, a college dean." Contestants were required to answer any 30 of the possible 94 questions and write a 50-word letter naming their favorite picture among those listed and telling why they liked it.

Framers of the quiz were mortified when they discovered five of their questions had been incorrectly worded: no right answer could be given. Magnanimously they ruled that anyone answering one of the five would receive credit for a right answer. The committee expected 25,000,000 contestants and hoped its sales promotion stunt would resuscitate the box-office. The record indicates that something happened to relieve the financial draught. In September, when the contest began, attendance returned to normal and started to move slowly up the chart. Of course, it might have been purely coincidental that Hollywood had recovered, by that time, from its panic and was sending a few good pictures along again.

THE QUESTION OF QUALITY

Those were the broader domestic developments of the year; only casual reference has been made to pictures themselves. In this regard, as in so many others, 1938 was disappointing. There were a number of good American films, possibly one out of six; but in the selection of the "ten-bests" most critics were thinking fondly of the better films from abroad, from England and from France. Ironically, Hollywood's most expensive productions were not too well received; at least, not by the reviewers and the more discriminating patrons. In this disappointing group fell "Marie Antoinette," "The Great Waltz," "Suez," "The Buccaneer," "The Plainsman," "Goldwyn Follies," "The Cowboy and the Lady" and "The Girl of the Golden West."

On the other hand, many of the "colossal" shows did reach the preferred lists and so justified their budgets. Among them were "In Old Chicago," "Test Pilot," "Alexander's Ragtime Band," and "The Adventures of Robin Hood." The trend, however, was away from the giants, both in treatment and in theme. The year saw the death of the operatic cycle, the waning of the whimsy cycle which was in full career in 1937, and an appreciable decrease in the number of musical comedies. The series film flourished, with sundry adventures of the Jones family, the

Hardy family, the Chan tribe, Annabel, Torchy Blane and many others. Several sequels to hit films of other years were produced; scores of past pictures were re-made, "Holiday," and "Dawn Patrol" prominent among them. It was a year, generally, of sweetness, domesticity and kindly, Pollyannish humor.

THE SOCIAL FILM

Mr. Hays, in his annual report, proudly said the American picture industry could plead guilty to the "soft impeachment" that it was creating "escapist" entertainment. Mr. Hays is an old hand at making a virtue of necessity. Through the year there was only one domestic picture which even came close to harsh reality. That was Walter Wanger's "Blockade" which dealt with the war in Spain and deplored the bombing of civilian populations. Mr. Wanger's film promptly ran into boycott. He was accused of making an excursion into the field of Leftist propaganda. It was a wild charge, certainly not justified by the picture, but it served to frighten other producers. Samuel Goldwyn promptly scrapped plans for a picture to be called "The Exile," based on the German situation, and Metro-Goldwyn-Mayer hastily altered its film of "Idiot's Delight." There was the merest trace of social import in "You Can't Take It With You," "Boy of the Streets," "Dawn Patrol," "The Cowboy and the Lady" and "Angels with Dirty Faces," but nothing hard enough to break plate-glass.

CENSORSHIP

In addition to self-imposed censorship, which becomes more and more confusing as Hollywood sees its fascist markets slip away, there were the usual tragi-comic activities of the scissor-wielders here and abroad. A March of Time release, "Inside Nazi Germany," which was filmed partly in Hoboken, N. J., was banned by the Chicago censors but sanctioned later. The Warners withdrew it from their circuit, however. An augustly-sponsored documentary "The Birth of a Baby," which carried the endorsement of the American Medical Association, the United States Pubilc Health Service and many other respected bodies and individuals (including Mrs. Franklin Roosevelt), was deemed unfit for public exhibition in New York and several other States. Medical groups, possibly out of pique, caused the Warners to abandon production of an exposé of quackery, "Your Life Is in Their Hands."

An exciting censorship move was the reported action of the Government in refusing to let Paramount film Army planes in "Men with Wings" unless the picture's pacifistic conclusion was changed to one a bit more martial. This cinematic history of aviation consequently reached its glorious peroration with its heroine making a speech beneath the shadow of two great bombing planes instead of ending with an American airman's death before a firing squad in Spain.

Censorship abroad was about as usual. Poland banned "The Life of Emile Zola" because certain of its scenes were "derogatory of the army." Italy ruled out the newsreel shots of the Japanese bombing of the American gunboat, *Panay*. Britain's censors, who wanted no nightmares on their conscience, ruled that Disney's "Snow White and the Seven Dwarfs" could not be seen by children under 16 unless accompanied by adults. Parliament was shaken, however, by the disclosure that the Government had asked Ambassador Joseph P. Kennedy's aid in suppressing parts of American newsreels critical of Prime Minister Chamberlain's policy during the Czech crisis in September. Germany banned Cecil B. DeMille's "The Plainsman" on the ground that Mr. De Mille was "suspect of consorting with the Soviets" (Mr. De Mille in 1935 had exchanged New Year's greeting cards with Boris Shumiatsky, then head of the Soviet film industry).

In the face of Hollywood's earnest efforts to avoid offending its foreign customers, restrictions against American films increased to the point of exclusion in several countries. As the year ended, Italy closed its doors entirely. American distributors were finding it almost impossible to take film-rental money out of Japan, Germany and some of the other continental countries. Britain's new Film Act increased its quota requirements. France was imposing higher tax barriers. There was in evidence, as the season ended, the beginning of a "good neighbor" policy toward Latin-America, with Hollywood setting in motion a production program designed especially to please South and Central American tastes. More along this line is promised for 1939.

BEST PICTURE LISTS AND AWARDS

As the year ended, film reviewers went into their customary trance and emerged with lists of "ten best" pictures. Prominent on all of them was "Snow White and the Seven Dwarfs," that full-length cartoon produced by Walt Disney and his staff. The picture had a tremendous success here and abroad. Westbrook Pegler, New York's acidulous columnist, went so far as to call it the "happiest thing that has happened in this world since the Armistice." Mr. Disney promptly announced plans for the production of other feature-length cartoons, "Pinocchio" and "Bambi."

The ten best pictures selected by *The New York Times* were:

"Snow White and the Seven Dwarfs."

"The Citadel," based on the A. J. Cronin novel; produced in England by Metro-Goldwyn-Mayer; directed by King Vidor and starring Robert Donat and Rosalind Russell.

"To the Victor," produced in England by Gaumont-British; directed by Robert Stevenson; starring Will Fyffe.

"Pygmalion," based on the G. B. Shaw play, with a script approved and supervised by Shaw; produced in England by Gabriel Pascal; starring Leslie Howard and Wendy Hiller. (Shaw, pleased with the job, has given permission for the filming of five other of his plays, all presumably in England.)

"A Slight Case of Murder," a macabre comedy by Damon Runyon, produced by Warner Brothers, directed by Lloyd Bacon and played by Edward G. Robinson and others.

"Three Comrades," a Metro-Goldwyn-Mayer dramatization of Remarque's novel of post-war Germany, directed by Frank Borzage and starring Margaret Sullavan, Franchot Tone, Robert Taylor and Robert Young.

"The Lady Vanishes," another Gaumont-British production, directed by England's master of melodrama, Alfred Hitchcock.

"The Adventures of Robin Hood," a rich and colorful adventure film, produced by Warners, directed by Michael Curtiz and William Keighley, starring Errol Flynn.

"A Man to Remember," a quiet, simple and poignant drama of a small town doctor; directed by Garson Kanin, played by Edward Ellis, produced by RKO-Radio.

"Four Daughters," an admirably told story of a family which had something in common with every family. It was produced by Warners, directed by Mr. Curtiz.

Like all "ten best" lists, this one was guilty of crowding out a few deserving films and confined itself to the English-speaking pictures. Among the other meritorious pictures of the year from Hollywood were "You Can't Take it With You," "Algiers," "Mad About Music," "Sing You Sinners," "Angels with Dirty Faces" and "Vivacious Lady." England sent over such other amiable films as "The Beachcomber," "Storm in a Teacup," "South Riding," "The Girl Was Young," "Three on a Week-end," "Divorce of Lady X," "Drums" and "Edge of the World."

The New York film critics, representing all but one of the leading daily newspapers in New York, voted "The Citadel" the best picture of the year, "Grand Illusion" (French) the best foreign language film, and announced the following awards: best actor's performance during the year, James Cagney for "Angels with Dirty Faces"; best performance by an actress, Margaret Sullavan in "Three Comrades"; year's best director, Alfred Hitchcock for "The Lady Vanishes"; a special scroll to Walt Disney and his staff for "Snow White and the Seven Dwarfs."

FOREIGN PICTURES

As noted before, importations figured prominently in the ten-best lists. England came out of its slump of 1937 just as the experts had predicted and produced a score of soundly made films. As its new Quota Act went into effect, American producers were forced to work out a plan of Anglo-American cooperation in picture-making. Metro and Twentieth Century-Fox were among the first to form production units abroad; other studios were completing similar arrangements as the year ended.

France continued to send over many splendid pictures. Among the best of 1938 were "Grand Illusion," "Carnet de Bal," "Story of a Cheat," "Ballerina," "Generals Without Buttons" and "Pearls of the Crown."

Russia began the year poorly, but toward its close there were traces of its old cinematic strength. Boris Shumiatsky (mentioned before as the Soviet with whom Mr. DeMille had been suspect of consorting) was removed from his post as head of the film trust, accused of sabotage. Among his offenses was the sanctioning of a Russian "Treasure Island" in which Jim Hawkins was transformed into a "Jenny" Hawkins who fell in love with Dr. Livesey. Sergei Eisenstein, the great Russian director who had been in disgrace, was readmitted to the fold and set to work on a Soviet historical film which has not yet been released in this country. Among the better Russian films of the year were "Lenin in October," "Professor Mamlock," "Lonely White Sail," and "Pugachev."

PERSONALITIES

There was a slight realignment of the box-office stars during the year, but Shirley Temple remained the headliner of the season, according to the annual poll of theatre men sponsored by the *Motion Picture Herald*. It is her fourth straight year at the top. The other ranking stars of 1938 were, in the order of their box-office attractiveness, Clark Gable, Sonja Henie, Mickey Rooney, Spencer Tracy, Robert Taylor, Myrna Loy, Jane Withers, Alice Faye and Tyrone Power. New to the list are Rooney, Tracy, Power, and Miss Faye. Dropped from the first ten last year were Bing Crosby, William Powell, Fred Astaire and Ginger Rogers, and Gary Cooper.

Among the new personalities brought to the screen and apparently destined for popularity were Hedy LaMarr, Danielle Darrieux, Richard Greene, John Garfield, Priscilla Lane, Nancy Kelly, Ellen Drew, Jeffrey Lynn, Lucille Ball, Louise Campbell, and, of course, Edgar Bergen and his almost-human ventriloquacious dummy, Charlie McCarthy. Among the once-prominent stars who appeared to have run their course were Mae West, Kay Francis, Marion Davies, Gene Raymond, Ruby Keeler and the victims of the abandoned operatic cycle: Grace Moore, Lily Pons, Gladys Swarthout and Nino Martini.

ADDENDA

While their effect might not have been earth-shattering, there remain a few other noteworthy manifestations of 1938. It was the year in which David Selznick conducted his great search for a young actress to play the rôle of Scarlett O'Hara in "Gone with the Wind." . . . It was announced in January, 1939, that Vivian Leigh, English actress, had been chosen for the rôle.

Charles Chaplin announced, denied, then announced again his intention (at some future date) of appearing in a satire on dictatorship to be called, appropriately, "The Dictator." Mr. Chaplin promised to talk in it.

An organization was formed called Films for Democracy which announced its intention to produce films to protect and advance the cause of American democracy.

Double features continued unabated, but several more States declared screeno and bank night illegal.

James Roosevelt, son of President Roosevelt, accepted a vice-presidency of Samuel Goldwyn Productions.

NECROLOGY

Among the screen personalities who died in 1938 were Pearl White, star of

"Perils of Pauline" and many other serial thrillers in the days of the silent screen; Warner Oland, famous for his characterization of the Oriental sleuth, Charlie Chan, in the Earl Derr Biggers mystery series; and George Melies, pioneer film producer in France and so-called Father of the Story Film. Others who died during the year were Robert Woolsey of the comedy team of Wheeler and Woolsey; Harry Myers, Conway Tearle, Fred Kohler, Lyda Roberti, Waldemar Young, scenarist; Max Factor, make-up expert; Robert Wiene, producer of "The Cabinet of Dr. Caligari"; John G. Blystone, director; Robert McWade; Kubec Glasman, scenarist; Mathew Betz, and Myrtle Stedman.

PERIODICAL PUBLICATIONS

American Architect
572 Madison Ave., New York City.

American Cinematographer
6331 Hollywood Boulevard, Hollywood, Calif.

American Journal of Archaeology
Archaeological Institute of America, Columbia University, New York City.

American Magazine of Art
American Federation of Arts, Washington, D.C.

Antiques
40 East 49th. Street, New York City.

Architecture
497 Fifth Avenue, New York City.

Architectural Forum
220 East 42nd. Street, New York City.

Architectural Record
119 West 40th. Street, New York City.

Art Digest
116 East 59th. Street, New York City.

Art News
136 East 57th. Street, New York City.

Arts and Decoration
116 East 16th. Street, New York City.

Cue
6 East 39th. Street, New York City.

Design
Columbus, O.

Etude
1712 Chestnut Street, Philadelphia.

House and Garden
Greenwich, Conn.

Modern Music
113 West 57th. Street, New York City.

Museum News
Smithsonian Institution, Washington, D.C.

Musical Courier
119 West 57th. Street, New York City.

Musical Digest
119 West 57th. Street, New York City.

Musician (The)
115 West 37th. Street, New York City.

Octagon
1741 New York Ave., N.W., Washington, D.C.

Parnassus
137 East 57th. Street, New York City.

Photoplay
122 East 42nd. Street, New York City.

Prints
1819 Broadway, New York City.

Professional Art Quarterly
18 East 48th. Street, New York City.

Stage (The)
50 East 42nd. Street, New York City.

Theatre Arts Monthly
40 East 49th. Street, New York City.

Variety
154 West 46th. Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

Academy of Motion Picture Arts and Sciences, Taft Building, Hollywood, Calif.

American Academy of Arts and Letters, 633 West 155th St., New York City.

American Academy of Arts and Sciences, 28 Newbury St., Boston, Mass.

American Academy in Rome, 101 Park Ave., New York City.

American Ceramic Society, 2525 N. High St., Columbus, O.

American Federation of Arts, The, Barr Bldg., Farragut Sq., Washington, D.C.

American Fine Arts Society, 215 W. 57th St., New York City.

American Institute of Architects, 115 E 40th St., New York City.

American Numismatic Society, 156th St., and Broadway, New York City.

American Scenic and Historic Preservation Society, 287 Convent Ave., New York City.

Archaeological Institute of America, Columbia University, New York City.

Architectural League of New York, 115 E. 40th St., New York City.

Artists Guild, 9 Rockefeller Plaza, New York City.

Fine Arts Federation of New York, 115 East 40th St., New York City.

Graphic Arts Board of Trade, 136 Liberty St., New York City.

Hispanic Society of America, The, 156th St., West of Broadway, New York City.

Municipal Art Society of New York, 119 E. 19th St., New York City.

National Academy of Design, 175 W. 109th St., New York City.

National Alliance of Art & Industry, 119 East 19th St., New York City.

National Assn. of Women Painters and Sculptors, 42 W. 57th St., New York City.

National Institute of Arts and Letters, 633 W. 155th St., New York City.

National Sculpture Society, 115 E. 40th St., New York City.

New York Society of Architects, 101 Park Ave., New York City.

Society of Illustrators, 334½ West 24th St., New York City.

Society of Independent Artists, 19 Bethune St., New York City.

DRAMA

American Society of Composers, Authors and Publishers, 30 Rockefeller Plaza, New York City.

Drama League of New York, Hotel Woodstock, 127 West 43d St., New York City.

Dramatists' Guild, 6 East 39th St., New York City.

English Folk Dance Society, 155 East 45th St., New York City.

Episcopal Actors Guild, 1 E. 29th St., New York City.

International Theatrical Play Bureau, RCA Building, New York City.

Motion Picure Foundation of the U. S. of America, 247 Park Ave., New York City.

Motion Picture Producers and Distributors of America, Inc., 28 W. 44th Street, New York City.

Theatre Guild, Inc., 245 W. 52nd St., New York City.

MUSIC

American Guild of Organists, 1270 Sixth Ave., New York City.

Cantors Registry, 95 St. Marks Place, New York City.

Chorus Equity Assn. of America, 117 West 48th St., New York City.

Grand Opera Choral Alliance, 276 West 43d St., New York City.

Grand Opera Guild, 250 West 57th St., New York City.

Jewish Theatrical Guild, 1560 Broadway, New York City.

National Bureau for the Advancement of Music, 45 W. 45th St., New York City.

NATIONAL MUSIC LEAGUE, 113 W. 57th St., New York City.

ORATORIO SOCIETY OF NEW YORK, 113 W. 57th St., New York City.

PHILHARMONIC SYMPHONY SOCIETY OF NEW YORK, 113 W. 57th St., New York City.

DIVISION XXVII
EDUCATION

ELEMENTARY EDUCATION

By Helen K. Mackintosh

Office of Education, Department of the Interior

PLACE OF THE ELEMENTARY SCHOOL

Despite the consistent decrease in elementary school enrollments the importance of education at the elementary level is evidenced in the fact that, of every 100 young persons enrolled in schools in September 1938, 75 were designated as elementary school pupils. The term "elementary school" does not accurately indicate the range of ages and the types of school organization which are represented by it in the United States. There is an evident trend toward the extension of the elementary school downward. Kindergarten enrollments will probably continue to increase gradually but have not yet reached the high mark of 710,000 set in 1930. In some city school systems, building space is provided for nursery schools with the running expenses met by governmental agencies. The upper limits of the elementary school are not clearly defined. Although many schools are organized on the 6–3–3 plan, in communities under 2,500 population the 8–4 plan is still widely used. In the past year, public school systems in several larger cities, which have been faced with increased junior high school enrollments and decreases in the elementary school population, have adopted a 7–5 plan as a means of reducing expenditures, and at the same time making use of space in elementary school buildings.

SCHOOL ORGANIZATION

Of the many current problems in the field of elementary education, those of organization, curriculum, and teacher education occupy the forefront of interest. As a natural outgrowth of the situation in which neither the lower nor upper limits of the elementary school are clearly defined, is the noticeable trend toward the organization of the children in what is now known as kindergarten grades one, two, and three into a primary unit. According to this plan the child moves at his own rate of speed through this unit. It is understood, however, that the exceptionally bright child will not be accelerated but will spend approximately four years' time in moving through the unit because his work will be enriched in a wide variety of ways. The slow child will take more than four years of time to advance through the unit, but will not be expected to repeat work if he has not completed as much as the average child in a year's time. Instead, if he accomplishes two-thirds of the learning which an average child acquires in a year, he will begin the second year of school with the last third of a normal first year's experiences. This plan is being widely talked about, and although little information has appeared in print with regard to its progress, it is being discussed and experimented with in various cities, towns, States, and counties, throughout the country.

Sometimes, as a part of the primary

unit plan, and sometimes, as related to the traditional grade organization, teachers advance with their pupils for two, three, or four years' time, and then return to the earlier level to assume responsibility for directing a new group of children.

Changes in organization such as the primary unit and the advancement of the teacher with the pupils, have been accompanied by attempts at reorganizing the school day. As a step away from the teaching of separate subjects an increasing number of school systems are adopting a modification of the plan recently reported by a large city. The curriculum is divided into five natural areas: language arts, social studies, exact sciences, health activities, and fine arts. Instead of rigidly held daily time allotments, a flexible arrangement known as "a weekly percentage range of time" is set up for each learning area in terms of minimum and maximum allotments.

Larger cities show a noticeable reduction in number of special teachers. Increasingly, classroom teachers are being made responsible for teaching art, music, health and physical education, and industrial arts under careful supervision. In those systems which are organized on a departmentalized or a platoon plan, all teachers are in a sense specialists.

These trends in school organization evidently point the way toward further changes which will be required by their adoption. Schools will need to evaluate these movements objectively and be reasonably sure that the adoption of them will further the purposes of elementary education in the individual community.

THE CURRICULUM

The field of curriculum continues to hold the center of the educational stage throughout the country. For the past decade, several hundred courses in all the various subject fields have appeared annually at the elementary school level. Only 12% of these in the last three-year period were of the fused or integrated type. State departments of education, especially in the Southern States, have initiated state-wide programs for the improvement of instruction through the medium of curriculum revision. Frequently these programs are carried on cooperatively with the state university, or the state education association, or both. Sometimes a curriculum laboratory is the agency through which the work is coordinated. These programs have aimed at establishing a background for curriculum building and have emphasized techniques of work such as the community survey and teacher study groups. A recent statement of curriculum practices indicate that 25 to 30% of classroom teachers are engaged in the curriculum program. Specific source materials for conservation and practices in safety education are innovations.

Those who have been accused of using the term "integration" in a loose fashion emphasize strongly that they are concerned with the integration of experience on the part of the child, rather than with integration of subject matter. However, the number of social studies courses in relation to separate courses in geography, history, civics and other related subjects shows marked increase. In the field of reading there is a redirection of emphasis from reading as a set of habits to reading as a form of experience. Increased emphasis is being placed upon the principle of reading readiness, not only at the early levels, but at all stages of the child's learning experience. Need is felt, also, for remedial measures, not that children are poorer readers today, but that teachers have more objective means of determining the poor reader, and that children at upper levels, who would have dropped out of school a decade ago, are being retained because of more stringent attendance laws or failure to secure a job.

TEACHER STANDARDS

Some curriculum workers and others interested in the general field of elementary education are asking whether school people are placing too much emphasis upon the production phase of curriculum, rather than upon the philosophy on which the new curricula are based. However that may be, the trend is toward broadening the curriculum to include all the resources which a community has to offer in making education a worthwhile experience.

Before either school organization or the modern curriculum can function most efficiently account must be taken of the type of elementary teacher that is available. The notion was prevalent for a number of years that anyone who could hold a book could teach in the elementary school. Now the picture has changed. The number of well-prepared teachers available for the elementary school has made it easier to raise requirements for certification. The minimum scholarship prerequisites for certificating inexperienced teachers, exclusive of temporary and emergency certificates, have been consistently raised in the past decade. Whereas ten years ago the *highest minimum* prerequisite called for two years of college or normal school, including professional preparation, the highest minimum requirement which is now held by five States calls for four years of college preparation. A decade ago the average state requirement for elementary certification called for high school graduation plus some professional preparation, usually less than one year. But in 1938 the average state department called for two years of college or normal, including professional preparation. As four-year courses have increased in number, the short one- and two-year courses are being eliminated. A number of States are in a period of transition from lower to higher requirements and have set a time two or three years in advance when higher standards of certification will become effective.

In keeping with certification changes are the changes in numbers and types of institutions which train elementary teachers. While in the last 20 years the number of state normal schools decreased by half, the number of state teachers colleges increased from 125 to 153. There are evident decreases in the number of city and private normal schools, and a corresponding increase in private teachers colleges. It is reasonable to expect a further strengthening of the four-year institutions in the next decade.

In raising requirements for certification, forward-looking teachers colleges have not been content to add further courses to the existing curriculum, but in many instances have initiated a program of curriculum revision which in its scope and approach resembles the movement at the elementary school level. A broader cultural base is being emphasized together with professional courses which are grouped rather than compartmentalized. Changes in curricula have kept pace with and in some instances have outdistanced the trends in certification.

SCHOOL LIBRARY SERVICE

In certain specialized fields such as library service, rural schools, education of exceptional children, health education, parent education, evaluation of school programs, school legislation, school building programs, advances can be catalogued. Eleven States now have state school library supervision; seven of these are in the South, three in the Middle West, and one in the East. A larger number of States, twenty-six, including the eleven previously mentioned, require certification of school librarians. Related to these programs which emphasize the importance of the school library in relation to elementary education, are the provisions for state aid. Especially in the Southern States which have sponsored such programs, funds for books in county libraries have been appropriated on a dollar-for-dollar matching basis. In Vermont and Louisiana, regional demonstrations have been given to show the value of bookmobile service to rural schools. Schools are served from a central collection much larger than any individual school could afford.

RURAL EDUCATION

In the field of rural education, the impression has developed in some quarters that the one-room school is rapidly disappearing. However, there are still 130,000 one-teacher schools and 25,000 two-teacher schools remaining in which nearly 4,500,000 children are enrolled at all grade levels. From this point on their elimination will be much less rapid because of the fact that many of these schools are located in Northern States where weather conditions play an important part in transportation, or in other sections which are sparsely populated where distances are too great or where transportation facilities are poor.

Emphasis is being placed not upon standardization of school districts from the standpoint of size, but upon an administrative unit which can furnish a high quality of education for all its children of elementary and high-school age. Increasingly, financial responsibility is being shifted from the administrative unit to the State. Instead of being satisfied with teachers trained for other types of teaching jobs, with teachers who are least well trained and who are poorly paid, rural schools are calling for persons trained to carry on an educational program in a rural community at a salary comparable to that of elementary teachers in other parts of the State, who have the same educational qualifications and experience.

EDUCATION OF EXCEPTIONAL CHILDREN

Although the depression years showed a drop in expenditures for all types of services, the emphasis on education of exceptional children continued. In the year 1938 state departments of education continued to stimulate interest in problems of the exceptional child. Two States have established full-time supervisory positions. In other States where there is no supervision on a state-wide basis, regular elementary supervisors are assuming responsibility or state superintendents are themselves promoting the program and are influential in seeing that legislation is sponsored for exceptional children. The transfer of state residential schools for the delinquent, deaf, blind, and feeble-minded to the supervision of state departments is becoming more frequent.

SCHOOL HEALTH WORK

Efforts in school health work have long been directed toward provision of hygienic classroom conditions. The old minimum standards in lighting, for example, are now considered inadequate, and are being modified in old buildings or provided for on a revised basis in the new buildings. There has been continued emphasis upon the important part played by the teacher in having a personal knowledge and making a daily observation of the individual child. Some tendency toward a decrease in frequency of routine examinations by school physicians has been brought about by increased emphasis upon thoroughness in the examinations that are made. Some States have increased the effectiveness of health programs by the addition of fully-prepared workers in the field of health instruction in state departments of education.

ARENT-TEACHER COOPERATION

The National Congress of Parents and Teachers reports for the year ended 1938 that in 27 States membership in parent education study groups was 111,340. Parent education programs sponsored by the Works Progress Administration enrolled 65,078 persons in 3,693 classes. Many of these groups were made up of parents of children attending elementary school. In at least 30 cities in 10 States there are parent education projects under the direction of full-time or part-time directors of parent education, under the superintendent or some other school official. Through a committee of the Association for Childhood Education an attempt is being made to acquaint young teachers with the techniques of parent-teacher cooperation.

One of the points where parent-teacher interest centers is in the field of evaluation. Reports to parents represent a type of school problem on which committees of teachers, parents, and administrators have been at work. Studies made include examination of available report forms, revision of local report forms, and plans for introduction of new types of reports. Especially at the primary level there is a trend toward doing away with formal reports. Where report forms are used, the newer forms either set up general objectives and leave wide-open spaces for the indication of specifics, or they break down objectives in great detail to form a check list. Parents are being urged to report the child's progress in learning during out-of-school hours so that education may be viewed with some degree of consistency throughout the 24-hour day.

ELEMENTARY SCHOOL EVALUATION

In so far as evaluation of the total elementary school program is concerned, there is no comparable force working in the elementary field, such as the Evaluation Committee of the Progressive Education Association. Probably the largest single enterprise is that of J. B. Wrightstone who has discussed the results he has secured, in the book *Appraisal of Newer Elementary School Practices* published by the Bureau of Publications, Teachers College, Columbia University, during 1938. Dr. Wrightstone has attempted an evaluation of the elementary school in terms of initiative shown by pupils and teachers in the class, the amount of critical thinking which is going on, and measures of other outcomes commonly called progressive. In the field of specific tests, personality tests are increasing in number. Dr. Pintner has been developing a test on fears of children and another on aspects of personality in elementary children. Reading disabilities have brought forth such measures as Durrell's Analysis of Reading Difficulty and the Durrell-Sullivan Tests of Reading Capacity and Achievement.

SCHOOL FUNDS AND FACILITIES

Of the nine States whose legislatures met in regular session during the year 1938 six definitely increased funds for the support of public schools. Several States adopted minimum school terms which guaranteed a longer school year for elementary school pupils. Increasingly States assumed responsibility for teacher welfare by enacting laws having to do with minimum salaries, tenure, and retirement rights.

The number of new school buildings increased because of building programs financed in part by grants from the Federal Government. The school survey as a basis for determining school building needs of a community has come to take a place of importance. Both buildings and equipment are designed to a greater extent than in the past to fit the nature and scope of the curriculum. Seating arrangements, toilet facilities, and materials for work are planned to enable children to meet both social and physical problems.

RESEARCH STUDIES

Research studies are reported in continuing numbers. The United States Office of Education bibliography indicates investigations in the major interest fields in the elementary school, in all phases of the curriculum, in supervision, administration, tests, and other important fields.

Outstanding among school surveys is the New York State Regent's Inquiry which is summarized in the volume *Education for American Life,* published by the McGraw-Hill Book Company. Because of the fact that findings are said to be typical of what might be found if other States were to be similarly surveyed, the statements concerning elementary education are of particular interest. Recommendations emphasize the kindergarten as a part of the regular school program, set the upper limit of the elementary school at sixth grade, urge promotions on a flexible basis, indicate size limits for elementary schools, propose character development as a central aim of the school program, stress importance of the basic mental tools, advise revision of the elementary school curriculum to bring about integration and elimination of the practice of adding subjects by specific legal enactments, urge provision for individual differences, indicate need for reduction of nonpromotion, suggest establishment of regional educational guidance clinics, make clear that the States should provide for the mentally and physically handicapped, advocate adequate and varied instructional materials, and propose a planned cooperative state and local program of research in all phases of the educative process.

CONFERENCE METHOD

The conference as a clearing house for ideas, experiences, problems, and cooperative activities was used widely throughout 1938 by professional organizations on the local, state, regional and national basis; by colleges and universities; by state departments of education; and by the United States Office of Education. Such conferences are essentially working conferences with active participation on the part of all those in attendance. The Department of Elementary School Principals held its second annual conference at New York University during the period July 1–15 in cooperation with the School of Education of that institution. The official summary of the work of this group appears as a publication entitled "The American Elementary School in Transition." The Office of Education has sponsored two conferences nation-wide in scope. In June a small group of persons representing teachers colleges, universities, state departments of education, public schools, and professional organizations came together to discuss current problems in elementary education. In September a small group of persons responsible for supervision of elementary education in state departments met at the Office of Education in Washington at the invitation of the Commissioner to talk over common problems. Such conferences are productive not only of materials and mutual understanding, but frequently form the basis for new approaches to current problems.

PUBLICATIONS

During 1938 a number of standard reference books on elementary education were revised, and a wide variety of new material appeared. Several books have stated in ways varying from the general to the specific the current philosophy of the progressive elementary school. The curriculum field has been generous with offerings of source materials and records of practice. Textbook production in the elementary field has taken on new life because of the limitation of purchases during depression years.

Here only the publications of organizations can be listed specifically. The Department of Elementary School Principals published its 17th yearbook: *Newer Practices in Reading in the Elementary School.* The Department of Supervisors and Directors of Instruction followed its preliminary study of teachers and cooperation by the publication of *The Smaller Community and Its Schools,* its 11th yearbook. The Educational Policies Commission of the National Education Association presented *The Structure and Administration of Education in an American Democracy* and *The Purpose of Education in American Democracy* which serve as basic guides to those in the elementary schools who wish to get a perspective of their field in relation to the whole process of education.

Among the research bulletins of the National Education Association which are of special interest to persons in elementary education are the following: "Population Trends and Their Educational Implications", January, 1938; "Why Schools Cost More", May, 1938; and "Safety Education Through the Schools", November, 1938.

Four issues of the *Review of Educational Research* for 1938 contain material of specific use to workers in the elementary field. They are "Finance and Business Administration", April; "Psychological Tests", June; "Buildings, Grounds, Equipment, and Supplies", October; and "Educational Tests," December.

Publications of the U. S. Department of the Interior, Office of Education, covered a wide area including curriculum materials and methods, school administration, preparation and placement of staff, and educational statistics. Of special interest are: "A Survey of Courses of Study and Other Curriculum Material Published Since 1934", "Curriculum Laboratories and Divisions", "Nature and Use of the Cumulative Record", "Know Your Public Schools" series, "Development of State Programs for the Certification of Teachers", "Preparation for Elementary School Supervision", "The Elementary School Principalship", and "Successful Methods of Teaching English to Bilingual Children in Seattle Public Schools".

The year 1938 has been a forward-looking period for elementary education. If decrease in enrollments continues and funds remain constant, more opportunity should be given the elementary school to work with children as individuals and to provide an environment best suited to living and learning simultaneously.

SECONDARY EDUCATION

By Orlie M. Clem

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MAJOR OBJECTIVES

There are a few fundamental principles or broad generalizations on which nearly all secondary educators would agree in the year 1938. The fundamental objective of the high school is general or liberal education. It is primarily not for purposes of vocational education or special education. In a fundamental sense, the objective of the rural high school is the same as for the city high school. The comprehensive or cosmopolitan secondary school with a varied curriculum and pupils of different abilities, races, and social backgrounds is generally accepted by educators. The rôle of the secondary school as a vital force for social democracy is generally approved in theory. That the main aim of commercial and industrial arts and home economics courses in the high school is general or liberal education, is usually accepted. It is not the primary aim of the secondary school to teach vocations.

INTEREST IN ALL YOUTH

Secondary education is concerned with adolescent youths wherever they are, inside or outside the school. "What to do with adolescent youths" has been a critical problem for education and government since the beginning of the depression. The American Youth Commission, the National Youth Administration, and the CCC reflect huge organized efforts to cope with the problem. Published reports of these groups explain their work and encourage their activities.

The year 1938 has witnessed the assertive activities of such youth movements as the American Student Union and its affiliated organizations, the youthful leaders among the Committee for Industrial Organization, the American Civil Liberties Union, the American League for Peace and Democracy, the International Labor Defense, the Workers Defense League, and the numerous "rightist" groups—Nazi, fascist, anti-semitic, and anti-radical. Secondary educators should have a sincere interest in these activities.

PROGRESSIVE EDUCATION

In 1938, as in the years immediately preceding, the spearhead of educational advance in secondary education was the Progressive Education Association. The Association's Eight-year Experiment involving the "Thirty Unshackled Schools" continued. The Progressives are enthusiastic over the results as reflected in preliminary reports. These reports indicate the utilization of testing instruments not commonly used in conventional secondary schools. They measure attitudes and points of view rather than mechanical learnings. Dr. J. W. Wrightstone of Ohio State University, holds that pupils educated with "progressive methods" excel those trained by the traditional techniques. Similar results are found in a study by Dr. Louis Raths, also of Ohio State University, for the Progressive Education Association. Rath's investigation determines the effect of travel study upon the consistency of views of high school pupils. The pupils involved were from the Lincoln School of Teachers College, Columbia University. The travel involved journeys to West Virginia coal fields, the mills of Pittsburgh, and other industrial areas. Dr. Raths concludes that a ten-day tour produces more than two-years' normal growth in the consistency and liberality of the student's thinking on social problems.

The year has produced two significant critiques of Progressive Education. John Dewey, in his volume, *Experience and Education,* maintains that "an educational philosophy based on the idea of freedom may become as dogmatic as ever was the traditional education which was reacted against." In Dr. Dewey's unifying principle of experience, all experiences are not of equal value. He considers the basic concept of purpose in the new school to be invulnerable. In this volume, Dr. Dewey holds the greatest weakness of Progressive Education to be in the selection and organization of subject matter. To permit pupils to study "what they want when they want" finds little support in this volume. To Dr. Dewey, a pupil's own purposing is of tremendous importance, but there are many times when the more mature judgment of the teacher should supersede that of the child. Prof. Boyd H. Bode, in *Progressive Education at the Crossroads,* examines the various slogans, principles, and practices of Progressive Education. He finds some superficial, others sentimental or contradictory. There are others, however, which are basic for a sound educational program. Bode pleads for sanity in the application of the principles of Progressive Education.

COMMUNITY-CENTERED SCHOOL

The year has observed the development of a strong interest in the "community-centered" school. Traditionally, the public secondary school has been subject-centered. Each teacher exalted his own subject. What the pupil would do with the subject was of little importance. The integrity of the subject must be preserved at all cost. The last two decades have witnessed considerable shifting of emphasis from the subject to the pupil. Several years ago Dr. P. W. L. Cox declared: "The American public wants its children educated, not eliminated." For the last decade The Progressive Education Association has emphasized the "child-centered" school. Rugg and Shumaker, in their volume, *The Child-Centered School,* provided the *leit-motif* of this emphasis. Hence, the Progressives have insisted that the teacher should be ready to satisfy the child's every need. In the "child-centered" school, the individual child has been exalted.

But the depression and its concomitants compel a re-thinking of social problems. The emphasis shifts from the exaltation of the individual to his rôle as member of a group, of a community. This is the most significant idea in secondary education in the year 1938. Everett and others in *The Community School* have outlined the working philosophy for the "community-centered" school. This philosophy holds that the school should be inextricably tied up with and should reflect the life of the community outside the school. Reduced to lowest terms, this philosophy demands that the school go to the community for its curriculum and its program of allied activities. Dr. Leonard Covello has provided in the Benjamin Franklin High School of New York City an excellent example of this philosophy implemented in practice. In this community, the high school is not something apart; it is the community. The most vigorous supporters of the "community-centered" school insist that high school pupils should participate actively in meeting social and economic problems. For example, Dr. P. W. L. Cox, in an article in the *Educational Forum* for November 1937 entitled. "Must the High School Survive," maintains that the present high school will disintegrate and be succeeded by some other institution unless it comes to grips with real problems.

Numerous illustrations are reported of definite community activities. In Oakland, Calif. each high school senior must pass an examination on "how to get a job in Oakland." A high school speakers' bureau for the community has been organized in Berkeley. The sit-down strike is a topic of study in a social science class in Flint, Mich. The industrial arts department of the Champaign, Ill. High School builds a house and sells it at auction. The project is sponsored by a joint community committee consisting of representatives of the school staff, labor, employer, and the school administration. New York City teaches civics by the "ferry-boat technique." In Corinth, Miss. the high school participates in a community anti-syphilis campaign. The International Friendship Club of Roosevelt High School, Wyandotte, Mich. sponsors an international friendship festival.

INTEGRATION OF SCHOOL SUBJECTS

In the field of curriculum and method, the year 1938 has experienced a definite trend toward the "integration" of school subjects. Two decades ago, Kilpatrick elaborated the concept of project teaching. Later, Morrison in his *Practice of Teaching in the Secondary School* proposed an elaborate system of "unit" teaching. Such innovating practices as the project method, the Morrison plan, the Dalton and Winnetka techniques, and the socialized recitation have contributed to the general acceptance of larger units of subject matter. "Take the next ten pages for tomorrow" is definitely symptomatic of outmoded teaching. The trend toward the larger unit of subject matter has been accelerated by the organismic psychology of the Gestaltists, and the researches of such neurologists as Lashley and Herrick. Educators in progressive schools now recognize the relation of subject matter in one field to other fields. Hence, they organize their materials around centers of interest, themes, and experiential units. In many American schools in 1938, groups of subjects were integrated and the rigid boundary lines of these subjects eliminated.

Private experimental schools have pioneered in developing integrated programs. The Lincoln School of Teachers College and the Experimental School of Ohio State University are illustrative. The Lincoln School reports an interesting tenth-grade integration course entitled "Experiencing Ancient Cultures." This course includes four units and involves instructional materials from four subject fields: social studies, English, art, music. In this course the contributions of six cultural centers are considered: the Nile Valley, the Tigris-Euphrates Valley, the Island of Crete, the Indus Valley, the Yellow River Valley, and Central America. The course is launched with the question "Would you as an inhabitant of Corinth have answered the plea for help from Miletus?" With Czechoslovakia in the headlines, such history is not ancient. A refreshing volume entitled, *Were We Guinea Pigs,* was recently published by the Experimental School of Ohio State University. The book is a thrilling account by pupils themselves of their experiences and achievements under an integrated program.

Reports of integration in public schools are even more refreshing as a result of difficulties overcome. Boulder, Col. Junior High Schools report fusion courses in English and social studies with emphasis upon training for citizenship as contrasted with training for college; fusion courses in art and general science; fusion courses in vocal music, home economics, and industrial arts. The Principia, Mo. High School reports a course integrating plane geometry and art. This course is designed to make plane geometry more than futile abstractions; also, to present the aesthetic and human side of art and architecture. The teacher recognizes the laws of perspective and symmetry as mathematical laws. In 1938, many forward-looking schools removed the "No Trespass" sign from subject matter boundaries. They prefer to utilize pupil experiences as wholes rather than fractions.

NEW INSTRUMENTAL AIDS

The year has witnessed wider instructional use of the newer mechanical aids and devices. Radio Station WBOE is now maintained and operated exclusively by the Cleveland Public Schools. The National Council of Teachers of English reports a clearing house for sharing techniques in the making of local school movies. The Pittsburgh Bureau of Mines Experiment Station reports a new two-reel film on the history and operation of the internal combustion engine. Lyle Miller of Youngstown, O. has compiled a film directory for high schools, listing 1,000 free 16 mm. films from over 250 sources. The 1938 commencement program of the Macksville, Kan. High School exhibited a unique feature. The various activities of class members throughout the school year were shown in motion pictures. The *Building America* picture magazine illuminates and enriches social studies teaching with such numbers as "Men and Machines," "Housing," "Power," and "Health." Dr. C. C. Clark of New York University conducts at Radio City a successful experimental demonstration of television in the classroom. Dr. James R. Angell predicts the common use of television in the classroom within a short time.

RELATION OF CURRICULUM TO EXTRA-CURRICULUM

The desirable relation of the curriculum to the extra-curriculum remains in doubt. The element of nomenclature indicates uncertainty: extra-curricular, co-curricular, intra-curricular, allied. The Davey Junior High School of East Orange, N.J. offers a unique solution to the above problem. In this school, unit courses supplant the extra-curriculum. There are no clubs. For two 50-minute periods each day, unit courses "disconnected with the curriculum" are given. No credit is allowed and no marks are assigned. Teachers and pupils carry on the work informally. These unit courses include such fields as archery, music, chess, cookery, and social dancing.

The trend is to include an extra-curricular period in the daily schedule. But a daily period and a point system may prove but frozen assets in an enterprising program. Fretwell says:

"If all the so-called extra-curriculum activities of today were curricularized, by tomorrow or the next day, youth would move out to a new frontier and set up, secretly or openly, organizations of its own.

SIZE OF ADMINISTRATIVE UNIT

The year 1938 witnessed a most significant development in regard to the size of the local school unit. The New York State Regents' Inquiry Report on the Character and Cost of Secondary Education states: "The best way to improve the character of secondary education is to improve the size of the school unit." The two following statements of the Regents' Inquiry are significant:

"The Inquiry, after its extensive study of the State, reports that the school district is now the weakest link in New York's educational system."

"New York State has come to feel as a result of this experimental program that the proper plan for the State of New York is not a county unit for schools nor a town unit for schools but a natural community unit created through consolidation to meet the needs and desires of those who live in the unit itself. The central school district is the well tested answer for the needs of the State of New York."

This authoritative pronouncement from a study of great prestige is the culmination of a long series of developments. Ferris' New York State Rural School Survey showed the curriculum of the small rural high school to be conservative, college-centered, and inflexible. The National Survey of Secondary Education, published in 1930, revealed a direct relation between the size of a high school and its efficiency as judged by modern standards. The majority of reported research studies indicates that small high schools are inefficient high schools.

During the Regents' Inquiry, Director Gulick made the following statement: "There are today more than 8,000 one-room school districts supervised by incapable supervisors and poorly trained teachers. There are hundreds of districts with fewer than 10 pupils; 400 districts with fewer than 100 pupils, and some districts with no pupils at all." Director Gulick's statement reflects conditions in the country generally. Almost half the nation's high schools have fewer than 100 pupils; more than 70 per cent have fewer than 200 pupils. Riddle's recent doctorate study of ten typical small six-year high schools in Alabama reveals that only two of these ten schools have steam heat; only one has an inside flush toilet; only one has an inside sanitary drinking fountain. In 1938, educators became "unit" conscious. It is probable that the public will demand an administrative unit large enough to provide a well-balanced educational program, economically maintained.

FEDERAL AID

The most persistent and perplexing problem in secondary education for 1938 was that of Federal aid. In February, the President's Advisory Committee on Education submitted its report. This Committee recommended Federal grants to education in the various States totalling $855,000,000 for the six-year period, 1939-45. The funds were allocated to the following types of educational service: elementary education, state departments of education, teacher preparation, buildings, secondary education, adult education, library service. The release of this report immediately preceding the winter meeting of the American Association of School Administrators unleashed vociferous controversy.

For years the National Education Association and the Department of Superintendence had favored increased Federal aid for education. Vigorously, these groups had insisted always that Federal support must not involve Federal control. Boldly, however, the plan of the President's Committee provided that the United States Commissioner of Education should approve plans of the States, require reports, audit accounts, and in other specified ways, supervise the administration of education in the various States. Winking further at our traditional educational policy, the Committee recommended: "Such portions of the general aid as may be allocated in the joint plans to the purchase of reading materials, transportation, and scholarships should be made available so far as federal legislation is concerned for the benefit of pupils both in public and in non-public schools."

The President's Committee had thus forced upon the Congress of the United States and American education two grave problems. The first involved Federal control. By the Constitution, was not education a residual power of the state? Though in desperate need, should the States capitulate to Federal control, exchange liberty for security? The second problem involved the support of non-public schools. Had not the separation of church and state been a fundamental principle of our cultural heritage? Should this concept be abandoned? The tenets of the Committee's report were later embodied in the Harrison-Thomas-Fletcher Bill. The recommended program will be considered by the next Congress. During the year the battle over Federal aid was fought on the far-flung frontiers of American education. No educational convention has been free from a discussion of it. No teachers' association has omitted a resolution regarding it.

Pivotal centers in this Federal aid controversy have been the University of Chicago, Columbia University, and the National Capital. Dr. Floyd W. Reeves, Chicago University's chairman of the President's Committee, considers agitation against the proposals as a mere "tempest in a teapot." He insists that the proposals do not really mean Federal control at all. Likewise he is undisturbed by the harmless and innocent provisions relating to non-public schools. On the contrary, Dr. George D. Strayer of Columbia University is skeptical of the Committee's proposals in regard to both Federal control and support for non-public schools. He fears that so-called "harmless and innocent" provisions may prove to be an entering wedge to centralized control and the destruction of public education. Dr. John W. Studebaker, a supporter of the bill, believes, however, it is possible to draft a bill which will provide greater educational opportunity and at the same time not provide Federal control.

Addressing the National Education Association in July, President Roosevelt said: "No one wants the federal government to subsidize education any more than is absolutely necessary. It has been, and, I take it, it will continue to be, the traditional policy of the United States to leave the actual management of the schools and their curriculum to state and local control. But we know that in many places local government cannot adequately finance either the freedom or the facilities to learn. And there the federal government can properly supplement local resources." All factions accept the principle of equalization of educational opportunity through increased Federal aid. Most educators covet a maximum of equalization of educational opportunity with a minimum of Federal control.

ADMINISTRATIVE STANDARDS

Three years ago a nation-wide investigation was launched known as the "Cooperative Study of Secondary School Standards." This study was sponsored by the six regional accrediting bodies. Its purpose was to determine the characteristics of good schools as a basis of evaluation and accreditment. There was general dissatisfaction with the existing arbitrary standards of the regional associations. Within the year 1938 definite results have come from this cooperative study. Three scales for measuring the "goodness" of a high school have been published: a Gamma Scale of the 25 most significant items; a Beta Scale of the 50 most significant items; an Alpha Scale of the 100 most significant items. Each successive scale includes the items of those preceding. Three administrative booklets are now being distributed: *Evaluative Criteria, Manual for Evaluating a Secondary School, Educational Thermometers for Scoring a Secondary School.* An intensive study is now in progress designed to evaluate each of 16 secondary schools in terms of its own philosophy.

TEACHER TENURE

In 1938 the pendulum oscillated toward more rigid tenure for teachers. In 1937, New York State extended tenure to teachers in villages of 4,500 population and over. The former tenure law provided for tenure in cities. The Regents' Inquiry Report recommends that tenure be applied to the 20,000 teaching positions not now covered by law. In 1937, Pennsylvania passed the most rigid tenure law known to any commonwealth. The law was designed to protect the tenure of the teacher from the intricacies of political subterfuge or administrative pettiness. Several recent court decisions in Pennsylvania indicated that the law has stood the test. For example, marriage of a woman teacher does not constitute cause for dismissal. In general, state teachers' associations are favorable to tenure. The National Education Association in its July, 1938 meeting resolved to "reaffirm its stand in full support of permanent tenure for teachers as a means of insuring to the children of the land the best possible instruction." Educators recognize the limitations of rigid tenure. But they believe the injustices and uncertainties of non-tenure jeopardize the education of children. The trend of tenure legislation indicates a similar conviction on the part of laymen.

BUILDING STANDARDS

The construction of the best 1938 high school buildings represents the most perfect achievement in secondary education. For the housing, care, and protection of children, they are the finest symbols of a mechanical civilization. They represent science at its best. Two illustrations of the 1938 model are given. The High School of Needle Trades in New York City will cost more than $4,500,000. The building will be 11 stories high and will have 11 elevators. It will contain 65 shops, six laboratories, two gymnasiums, a medical unit, four stores, a museum, a music room, two business practice rooms, and an auditorium, in addition to the various class and administrative rooms. The Knickerbocker Junior High School of Troy, N.Y. is a model in terms of general beauty and school service. It is away from the clang of city streets. Acres are available for a physical education program. Cleanliness is encouraged through oil heat. Contact with the outside world is provided through a radio in every room. A dynamic program is fostered through movable furniture in all rooms. A beautiful and well-equipped auditorium affords a central forum for student activities. Individual departments reflect the genius of present day construction. No home economics teacher could fail to be inspired as she pushes buttons, pulls levers, and adjusts the numerous time-saving gadgets.

GENERAL EDUCATION IN LIBERAL ARTS COLLEGES*

By John Dale Russell

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INTRODUCTION

General education seems peculiarly the function of the liberal arts college; most institutions of this type clearly recognize the function and organize their curricula around the major purposes of giving a general education. The curricula pattern that a generation ago became more or less a stereotype in such institutions provides for three principal fields of study or distributions of courses for each student before the Bachelor's degree is awarded: (1) a major subject, or field of concentration, with associated minor or minors and both the major and the minors chosen from a departmental grouping of subject matter; (2) a distribution of courses such that the student shall have made a specified minimal amount of contact with each of the major fields of human knowledge—in terms of broad groupings of subject-matter departments; and (3) free electives to an amount determined by subtracting the sum of the requirements under (1) and (2) from the total of 120 semester-hours required for graduation.

A number of leaders in liberal arts colleges, however, have become convinced that this curriculum pattern is not sufficient to guarantee to each student a satisfactory attainment in general education, and numerous attempts have been reported looking toward the revising or supplementing of this traditional plan. It is the purpose of this chapter to report an investigation of a number of these innovations, to call attention to the distinctive procedures employed, and to describe the evaluations that have been made of the results.

SELECTION OF INSTITUTIONS

A first step in this inquiry was to list the institutions attempting to carry forward a program entailing some distinctive features in general education. To this end a canvass was made of the articles in educational journals and books published since January 1, 1930. The names of all institutions referred to in these sources as having some distinctive program of general education were included in the basic list for the investigation, regardless of the apparent significance of the innovation. The list found in the literature was supplemented by the names of a few colleges known personally by the writer to have undertaken a program of the type under consideration and by the names of a few additional institutions suggested by the chairman of the Yearbook Committee. . . .

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* The following review is comprised of excerpts from the article written by Professor Russell for Part II of the thirty-eighth *Yearbook* of the National Society For The Study of Education devoted to the subject of "General Education in the American College." These excerpts are reprinted from the *Yearbook* by permission of the National Society For The Study of Education.

The final list of colleges contained fifty-three institutions. A letter was addressed in June, 1938 to the president or dean of each of these colleges, explaining the nature of the investigation and requesting cooperation in furnishing information concerning the program of the institution.

Two colleges reported that their programs of general education were too recently inaugurated to justify data. Forty-two of the remaining fifty-one institutions agreed to furnish a statement concerning their programs; the thirty-five here listed supplied statements in time to be utilized in preparing this report:

University of Akron
Alabama College
Birmingham-Southern College
Brown University
Bucknell University
University of Buffalo
Goucher College
Grinnell College
Hamline College
Harvard University
Hendrix College
Howard College
University of Iowa
Judson College
Knox College
Lawrence College
University of Louisville
Morningside College
University of Cincinnati
Colgate University
Colorado College
Columbia College
Drew University
Fenn College
Muskingum College
Ohio State University
Reed College
University of Rochester
Simmons College
Southwestern College
Swarthmore College
Union College
Wayne University
Wells College
Yale University

DEFINITIONS OF GENERAL EDUCATION

It will be recalled that the colleges included in this study were originally selected because reference has been found in the literature or through personal observation of the writer and others indicating that these institutions are introducing or maintaining programs of general education somewhat different from the traditional type of curricula organization in liberal arts colleges. Only a superficial analysis of the references in the literature, however, was required to indicate the probability of a considerable difference of opinion regarding the meaning of the term 'general education' as it applies to the program of a liberal arts college. In order to clarify this point, each respondent was asked to indicate the definition of general education on which the program of his institution is formulated. It was suggested that this definition be set up in two categories: (1) negatively, to indicate what educational activities are not included in general education; (2) positively, to indicate the objectives, content, methods, and so forth, peculiar to general education. Further, it was specifically asked whether general education is considered synonymous with liberal or cultural education.

Only twenty-two of the thirty-five colleges supplied a definition of general education. The replies indicated a considerable variation of opinion with regard to the meaning of the term. The following outline lists the various features of the definitions as mentioned in the replies:

I. **Negative Features:**
   1. It excludes all definitely technical, vocational, and professional preparation.
   2. It excludes purely technical training, but does include preparation for the professions.

3. It does not exclude vocational preparation.
4. It excludes highly specialized education or concentration in a narrow field of knowledge.
5. It excludes work merely preliminary to advanced study in a given field of knowledge.
6. It excludes fragmentary knowledge and skills, stressing instead the interrelations of knowledge.
7. It excludes the study of subjects for their disciplinary value.
8. It does not consist of survey courses.
9. It is not defined in terms of time.

II. **Positive Features:**

1. Objectives:
    - (a) The objective is to fit the student to understand himself and the world in which he lives.
    - (b) The objective is to equip the student for later life.
    - (c) The objective is to assist the student to adapt himself to contemporary conditions.
    - (d) The objective is to prepare the student for living as a free citizen in a democracy.
    - (e) The objective is to promote the finest development and expression of the student's abilities.
    - (f) The objective is to help the student synthesize information and see the relation of facts in one field to those in another.
    - (g) The objective is the discipline of the intellectual and emotional powers of the student.
    - (h) The objective, from the standpoint of the student, is the pursuit of learning for its inherent or intrinsic values.
2. Content:
    - (a) The content must cover all the principal branches of knowledge.
    - (b) The content includes the knowledge the educated person is expected to possess.
    - (c) The content consists of subject matter of wide application and great intellectual appeal.
    - (d) All education is to some extent general education.
    - (e) The content includes the particular material within a given field that will have usefulness and an applicability for one who is a layman, not a professional, in that field.
    - (f) The content depends on the individual — what is general education for one student may not be for another.
    - (g) General education concerns itself with the whole individual.
    - (h) General education will always be superficial.
    - (i) General education does not consist merely of elementary concepts.
3. Procedures:
    - (a) The spirit in which the work is taught determines the extent to which it provides general education.
    - (b) Individualization of the work is an important feature of general education.
    - (c) General education involves less reliance on the lecture method and more on informal methods of instruction.
    - (d) General education involves the association of heterogeneous groups of students in a wide variety of activities for purposes of extending the range of their experiences.
    - (e) General education is philosophical and integrative in character.
    - (f) General education is nontechnical.

III. Relation of General Education to Liberal or Cultural Education:
   1. The terms are synonymous.
   2. If cultural and liberal education are defined narrowly, they are not synonymous with general education; if defined broadly, they are synonymous.
   3. The distinction between the terms is not clear, but they are probably not synonymous.
   4. The terms are synonymous in process and objective, but different in method.
   5. Liberal or cultural subjects contribute more to general education than vocational or professional subjects, but the latter make some contribution to general education.

Obviously, a considerable amount of subjectivity enters into the analysis and classification of the items as set up in this tabulation. The outline indicates clearly, however, that there are marked differences of opinion—and perhaps some obscurity—regarding the meaning of the term 'general education.' A great many of the institutions seem to identify it closely with the term 'liberal education' or 'cultural education.' From a negative point of view most of the respondents contrast general education with professional and technical or vocational education.

If it be accepted that general education is the opposite of vocational or professionl education, it would scarcely seem that any specific procedures could be described as distinctive of general education. In the judgment of the writer, an attempt to define general education in terms of instructional procedures is not particularly useful.

SPECIAL PROCEDURES IN PROGRAMS OF GENERAL EDUCATION

The discovery of the special procedures that are employed in liberal arts colleges to implement their programs and to accomplish the objectives that accord with their definitions of general education is perhaps the most significant part of this investigation. From twenty-nine colleges replies were received that were sufficiently complete and definite to be useful in this aspect of our investigation. Analysis of these replies indicates eighteen provisions or procedures for general education, that, when classified in five major groups, permit the following lay-out:

I. Provisions in Structural Organization
   1. Vertical cleavage into upper and lower divisions
   2. Divisional organization of departments and subjects

II. Provisions Regarding Arrangement of Subject-matter Offerings
   1. Survey courses covering all the broad fields of knowledge at the junior-college level
   2. Survey courses running through the four years of the college program
   3. Some courses organized on a functional, rather than on a subject-matter, basis
   4. Independent reading courses
   5. Special lectures, conferences, and discussions by outstanding leaders
   6. Special stimulation of use of the library by students

III. Special Provisions for the Planning of Student Programs
   1. Opportunity for a field of concentration on a basis broader than a departmental major
   2. Individual planning of the program for each student
   3. Student initiative in planning of his program
   4. Special counselling by faculty members on choice of program by students

IV. Special Instructional Procedures
   1. Tutorial plan
   2. Seminar plan
   3. Honors courses

V. Comprehensive Examinations
   1. Admission to upper division based on comprehensive examinations
   2. Admission to senior year based on comprehensive examination
   3. Comprehensive examination required for graduation

EDUCATION FOR THE PROFESSIONS

By George D. Strayer, Jr.

Professor, George Peabody College

ENGINEERING EDUCATION

Annual Report of Engineers' Council.—The Sixth Annual Report of the Engineers' Council for Professional Development covers the 12 months' period ended October, 1938. Many important groups participate in the work of the Engineers' Council—The American Society of Civil Engineers; The American Institute of Mining and Metallurgical Engineers; The American Society of Mechanical Engineers; The American Institute of Electrical Engineers; The Society for the Promotion of Engineering Education; The American Institute of Chemical Engineers, and The National Council of State Boards of Engineering Examiners. Four important committees of the Engineers' Council made reports concerning their work in the Sixth Annual Report referred to. These committees are concerned with (1) engineering schools, (2) professional recognition, (3) professional training, and (4) student selection and guidance.

Curricula.—The committee on engineering schools issued in October, 1938 a list of accredited undergraduate engineering curricula as of Oct. 22. The printed list is arranged both by institutions and curricula.

The report of the committee on professional recognition is of special interest because of the fact that the engineering profession made public in October, 1938 a study of the current methods of admission to practice employed by the professions of accounting, architecture, law, and medicine. The report suggests that the greatest problem for the professions is two-fold: "First, getting the properly qualified individuals into the profession, and second, measuring the qualifications of the applicants."

Professional Development.—The report of the committee on professional training shows special concern with the opportunities for professional development, including the problems of graduate study, opportunities for engineers, the cultural development of engineering students, cooperative education, and self-education. This committee believes that the opportunity for professional development is found largely in three different places—the incorporated schools or colleges for undergraduates, graduate and home study; the local engineering societies or clubs; and the opportunities in industry through organized training and education.

Student Selection and Guidance.—The committee on student selection and guidance has devoted most of its attention to the importance of counsel before entrance to college. The committee suggests in its report that experimental summer guidance camps have helped to make possible a better judgment of personalities, and therefore a better selection. The committee has worked with organizations of counselors and has furnished guidance material in pamphlet form. The pamphlet is called: "Engineering: A Career, A Culture." It is suggested that the local engineering societies in many instances may cooperate with the public schools in helping to give guidance to students manifesting interest in engineering. The committee states that it is really a matter of professional self-interest for all engineers to supply counseling services when needed.

State Requirements for Engineers.—Many States now require a cadetship of a certain number of years beyond the B. S. degree for those who wish to practice the engineering profession within their borders. The experience must be of a type satisfactory to the State Board, and graduate work in engineering may count as part of the period of cadetship. This cadetship is similar to the internship period for the physician. The work of the Engineers' Council for Professional Development is still in the experimental or developmental stage; but much has been accomplished both from the standpoint of accrediting undergraduate engineering curricula and promoting interest on the part of engineers and others in the training and qualifications necessary for entrance to the profession. One of the most interesting undertakings of the Council is its work in regard to continuing the training of engineers after they have satisfied the institutional and state requirements.

LEGAL EDUCATION

Educational Requirements.—Ninety-seven out of the 185 law schools mentioned in the *Annual Review of Legal Education* for 1937 are on the approved list of the American Bar Association. They enroll 61 per cent of the total number of law school students. Twenty-eight States now require two years of college or its equivalent before individuals begin to study law. Seven States require two years of college or its equivalent before admission to the bar, but the two-year requirement does not have to be met before the individual begins to study law. One State requires two years of college before the student begins the study of law unless the person has reached the age of 25 before beginning the study of law. Four States require a high school education or its equivalent before the individual begins his preparation for admission to the bar. Seven States require a high school education or its equivalent before the individual is finally admitted to legal practice, but this requirement may be met at any time before admission to the bar. Two States have no educational requirements.

Legal Training.—Forty States require a minimum of three years of legal training. Six States require a minimum of two years of legal training. Three States have no requirement in regard to the minimum period of legal training. The District of Columbia is included in this tabulation and requires a minimum of three years of legal training.

Two States and Hawaii require graduation from a law school approved by the American Bar Association. One State requires three years of study in a law school approved by the American Bar Association. Eleven States do not recognize legal training as a proper qualification for the bar examinations unless the training is in a school approved by the American Bar Association. One State approves legal training only if it is pursued in a school approved by the state supreme court, and the list approved by the supreme court of that State is the same as the approved list of the American Bar Association. Seven States have other regulations in regard to the state recognition of law schools.

Attendance at Law Schools.—A table in the *Annual Review of Legal Education* for 1937 indicates that there has been little change in the number of law schools conferring degrees since the academic year 1929–30. There were 180 law schools conferring degrees in that year, and in 1937–38 the number was 179. During this period the number of schools has varied from as few as 173 to as many as 185. The total attendance of students at approved and unapproved law schools during the year 1937–38 was 39,255, but only 24,029 of these students were in attendance at approved institutions.

Improvement of Standards.—The American Bar Association is constantly endeavoring to improve both the academic or general education requirements and also the training given by the recognized law schools. It has been instrumental in organizing legal institutes in the effort to provide practicing lawyers with current information for the purpose of keeping them up-to-date with the new developments in the legal field. One of the most interesting developments that has occurred in recent years is the rule of the Delaware Supreme Court which permits the bar examiners in that state to limit the number of individuals preparing for the legal profession. The Delaware Supreme Court has ruled as follows: "No person shall be registered as a student of law unless his registration is in the judgment of the board of examiners warranted in order that there may be a competent number of persons to practice as attorneys in the courts of this state." There has been a great deal of discussion in recent years concerning the number of lawyers licensed to practice and the number of lawyers which are needed in the various States of the United States. While many individuals believe that there are too many lawyers, other individuals, both lawyers and laymen, express the idea that numerical limitation on admission to the bar is undemocratic. During the year 1937–38 law school enrollment dropped 2 per cent, but total new admissions to the bar increased from 8,627 to 8,934.

Evening Law Schools.—The American Bar Association recognizes some part-time law schools. It is of interest to note that, during 1937–38, 20 of the 97 schools approved by the American Bar Association conducted at least some part-time work. Again the question has arisen as to whether or not adequate legal education may be secured on a part-time basis; but the consensus of opinion seems to be that it is of vital importance that opportunity to practice law should be open to individuals regardless of their economic status, and that there is a place for the part-time law school.

MEDICAL EDUCATION

Preliminary Education.—The recommended minimum requirement for preliminary education prior to entrance to a medical school has been two years of college work ever since 1918. This minimum requirement has been suggested by the Council on Medical Education and Hospitals. There are still three States which require only high school graduation or its equivalent and two States which have a minimum requirement of one year of college work before beginning medical education. Fifty-eight of the 27 medical schools in the United States now require more than two years of college for entrance. Two of the remaining 19 institutions will require three years of college work for the class entering in the fall of 1939.

Licensure.—There are still 13 States in which graduates of unrecognized medical schools may be admitted to practice. In one State, having a law that requires candidates for medical licenses to be graduates of schools which meet the requirements of the Association of American Medical Colleges, licenses are sometimes issued to men who have not attended such schools.

Internship.—Thirteen medical schools in the United States and four in Canada require a period of internship as a necessary part of the training for a degree. One school requires a two-year internship, but in the other cases a one-year period is the rule. Twenty States, Alaska, and the District of Columbia make a hospital internship mandatory for applicants for licensure. In two of the States the requirement was not enforced until Jan. 1, 1939.

Enrollment and Graduates.—While the number of medical schools has decreased from 160 in 1905 to 77 in 1938, the number of students has remained about the same since 1930; although it has decreased from 26,147 in 1905 to 21,587 in 1938. The number of graduates has been approximately the same since 1932; although it has decreased from 5,606 in 1905 to 5,194 in 1938. While only five medical schools required a degree for admission for the session 1937–38, 3,685 of the 5,691 graduates hold baccalaureate degrees. It is of interest to note that the number of women graduates in medicine over a period of years has shown little change. There were 219 women graduates in 1905 and 237 in 1938.

Nursing Education.—The National League of Nursing Education has established an accrediting committee, and 57 schools have asked to be visited by this committee. The schools are being observed as rapidly as possible by two representatives of the headquarters' staff. This accrediting committee has no power, but it is attempting to develop criteria for accrediting schools of nursing and to try out these criteria. The American

Nurses' Association and the National Organization of Public Health Nurses have been asked to aid this accrediting committee. Other medical, hospital and lay groups have been invited to assist.

Public Health.—There has been some increase in the number of positions available for individuals with training in the field of public health. This has been due partly to certain Federal laws and partly to the growing recognition on the part of the state and local governments of the importance of public health service. The national organization of public health nurses now has a membership of approximately 10,000, and there are many state organizations of public health nurses.

The Association of Collegiate Schools of Nursing is interested in the schools which offer a degree in nursing. It has a membership of 23 schools, and it is concerned with the mutual improvement of the institutions belonging to it. There are many colleges and universities which are beginning to develop schools of nursing, and this Association will help to establish relationship between the new schools and the colleges or universities of which they are a part, as well as relationship with the hospitals in which part of the training occurs.

Trends.—There is a trend toward a broader conception of nursing education. This is due partly to the increase in the number of different types of positions available to those with nurse's training. There has been a tendency to increase the number of graduate nurses employed by hospitals, toward a higher admission standard for those starting their professional training, and for higher educational standards for members of nursing school faculties. There is a growing movement to require two years general education beyond high school for entrance to nursing education, and to reorganize the courses in such a way as to provide the awarding of the B.S. degree at the conclusion of the training.

PREPARATION FOR SOCIAL WORK

Scope.—The American Association of Schools of Social Work began as the Association of Training Schools for Professional Social Work in 1919. Nineteen schools belong to the original association. Much of the work which has been done by the Association so far has consisted in stating principles and arriving at informal agreements.

Requirements for Admission.—A preliminary study is being made of the prerequisites for admission but no definite statements or standards have been established. A tendency has been noted in recent years to establish higher admission standards for students wishing to enroll in schools of social work. The increase in the number of positions available to graduates with training in social work has helped to make this possible.

The Association has been raising standards for admission of schools to membership, including such requirements as supervised field work, the teaching of certain subjects, and the employment of an adequately trained staff. The first effort to eliminate any members from the Association on a basis of whether or not they met the standards established was in 1937. The Association was unable for financial reasons to send a representative to visit each school, and the evaluation was based upon written materials submitted by each school. The result of the comparison of the schools with the established standards was that two schools were dropped from membership; four schools were put on probation with the provision of time to meet the requirements; six schools were given a provisional membership status, and 18 schools were said to satisfy the standards for membership.

Number of Graduates.—The schools belonging to the Association in the academic year 1936–37 had 3,692 full-time students and 3,712 part-time students majoring in social work. During the same academic year the following degrees were conferred on students of social work: eight Doctor's degrees, 437 M. A. degrees, and 226 Bachelor's degrees.

After Oct. 1, 1939 all students in the schools belonging to the Association must graduate from college before beginning their professional education, and in a majority of member schools they will have to study about two years in order to receive a degree in social work.

PUBLIC ADMINISTRATION

Institutions and Courses.—There were 61 colleges during 1938 which offered a special program or group of courses for those wishing to prepare for public administration. Many additional institutions offered one or more courses. One-half of all the courses listed by the committee on public administration of the Social Science Research Council have been started during the last four years, and three-fourths of all the courses were offered for the first time during the last ten years. In recent years many individuals who formerly sought private employment have applied for positions with the local, state or national governments.

Internship.—The personnel department of the Tennessee Valley Authority has established a training program for assistants in the personnel department. The program varies with the individual but usually lasts about one year. It consists of training experiences in several divisions, and a course in public personnel administration. At the conclusion of approximately a year's work those who have successfully completed the program are appointed to regularly classified positions in the personnel department.

The National Institute of Public Affairs is made possible by the Rockefeller Foundation and the Federal Government. It is "a non-political, self-governing organization created for the purpose of providing practical training in the operations of the Federal Government to young people whose natural aptitudes and scholastic preparation seem to qualify them for careers in the public service." The program consists of work in some divisions of the Federal Government and certain courses. Thirty candidates were selected in 1936, 40 in 1937, and 50 in 1938.

Local Government.—The International City Managers' Association states that there are more than 450 city managers in the United States. The Association has appointed a standing committee on Career Service in Local Government which has published a pamphlet entitled: "A Career Service in Local Government." This publication contains a list of the obstacles to a career service and makes recommendations for overcoming them. Some of the obstacles mentioned are residence restrictions, low educational and age requirements, poor salaries, low prestige of municipal employment, and the "charity concept" of the public payroll. The Committee recommendations included establishment of a merit system, increasing prestige by improving service standards, increasing opportunities for public service training, expanding professional organizations for public officials, abolishing local residence restrictions, establishing retirement systems with pension rights transferable from one city to another, and increasing apprenticeship opportunities.

Municipal Training Institutes.—The New York State Conference of Mayors and Other Officials is one of the most active groups in providing inservice training through short courses, usually of not more than three days' duration. These courses are called Municipal Training Institutes, and they are for such individuals as financial officials, park officials, city and village sewage works operators and sewer superintendents, and assessors.

Demand for Trained Persons.—The increase in the number of opportunities for trained persons has been due in large measure to the state and Federal laws concerning unemployment insurance, old-age pensions, employment bureaus, and the general tendency of the national, state and local governments to increase their social services.

TEACHER EDUCATION

Standards of the American Association of Teachers Colleges.—The minimum standards for accrediting teachers colleges and normal schools were revised in February, 1938. The changes were made in regard to teaching load, student health, and financial support. The new regulation in regard to teaching load states that the average teaching load for the entire college shall not exceed 15 recitation periods of not more than 60 minutes each per week. One class period is considered to be equivalent to one and a half class periods in shop, laboratory work, and physical education. It is stated that the teaching load of an instructor may vary from one semester to another and may be adjusted to other responsibilities to the institution. However, a teaching load of more than 18 hours per week for any teacher must be justified by the president of the institution in his report to the association.

The changes in regard to student health are: That any accredited teachers college or normal school must employ on a full-time basis either a nurse or physician; examination by a physician for every student must be provided at least once a year, and hospitalization for a minimum period of one week including board, room, general nursing, and expense of operating room for emergency operations shall be provided. The institution may require a student fee to cover the cost of examination and hospitalization. Subsidies and special concessions to athletes are not considered to be desirable. The funds necessary for the health and physical education program for all students must not be used to further a program of intercollegiate athletics.

The Association will determine in the future the adequacy of financial support by considering such information as the following: stability of income, amount expended per student, percentage of the total budget paid for by student fees, total amount of indebtedness, accounting procedures, and salary schedules for administrators and teachers. If the institution has a regular income of less than $50,000 a year, the Association will be inclined to question whether or not the institution can offer an adequate program. Privately incorporated teachers colleges should have sufficient income from other sources than student fees so that teachers will not be forced to carry heavy teaching loads to balance the budget.

Institutions Accredited by the American Association of Teachers Colleges.—The total membership of the Association, according to the *Seventeenth Yearbook* which was published during 1938, is 197. Forty of these institutions are non-accredited, while 157 are given full recognition by the Association. During the year seven new inspections were made and four institutions were accredited. Five re-inspections were also made and two of the institutions approved. Four institutions were dropped from the accredited list during the year.

Schools of Education.—Many of the leading universities, both public and private, maintain departments for the training of teachers which, in many instances, are called schools of education. Degrees awarded by these schools often are awarded through the faculty and trustees of the university, just as the degrees are awarded for students attending an engineering department or a law department. A large number of colleges offer sufficient work in education courses so that the student may earn enough education credits to secure a state certificate which will enable him to teach in a state public school system. This attempt on the part of both the publicly and privately maintained colleges to train teachers is severely criticized, but the teachers colleges and normal schools are also open to criticism because they sometimes attempt to provide courses for individuals who are not preparing to become teachers.

THEOLOGICAL EDUCATION

The American Association of Theological Schools is a relatively new organization and is a successor to the Conference of Theological Schools and Colleges in the United

States and Canada. It was organized in 1936, and it includes in its membership 79 theological schools in the United States, Canada, and Puerto Rico. This Association requires that any theological seminary or college which wishes to be accredited must require for admission to candidacy for its degrees the degree of A.B. from a college approved by one of the regional accrediting boards or the equivalent of such a degree. It further requires that any theological institution which wishes to be admitted must offer a course leading to the degree of B. D. or its equivalent. It is suggested that this course will usually require three years of two semesters each beyond the A. B. degree.

Accredited Schools.—Although the American Association of Theological Schools has a membership of 70, only 46 schools have been placed on the accredited list. Three cases are still pending. These schools were reported as accredited in June, 1938.

Enrollment in Accredited Schools.—There has been a tendency in recent years for the enrollment in accredited theological schools to decrease. Although this tendency is not true when each individual school is considered, the total enrollment in 43 accredited theological schools in the school year 1931–32 was 6,071, while the total enrollment in the same schools in the school year 1935–36 was only 5,102.

Degrees.—There is some confusion in regard to the degrees now in use; although the B. D. has become the degree most often awarded as the first theological degree. Not counting the certificates and diplomas, there are more than 17 different degrees awarded by the 43 accredited schools which reported in answer to a request by the Association. A committee has been appointed to study the system of degrees in theological education, both as to the names and initials employed, and also as to the standards required.

BUSINESS EDUCATION

The tendency during 1938 for a continued expansion of the activities of the Federal Government has in some measure increased the demand for people with business training. The passage of the Federal act concerning the regulation of hours and wages is one of the major developments which occurred during the year. The many positions necessitated by the increasing responsibility for old age pensions and unemployment insurance has made possible openings for qualified individuals.

The expansion of business courses has been due partly to the necessity on the part of both small and large business concerns for keeping records demanded by either the State, the Federal Government, or both. This need has been met in some instances by an accounting service performed by individuals traveling in a specially equipped conveyance providing services to many small business houses within an area.

The interest in economic theory and business principles awakened by the depression in 1929 has tended for a period of years to increase the knowledge of the layman in business affairs. Not only adults who have already completed their formal training but also many young people attending high schools, colleges, and universities have chosen to take some work of a business nature regardless of what vocation they plan to follow after graduation. The attempt has been made in some schools and colleges to meet this demand by offering business courses of benefit to all students. A course such as bookkeeping is sometimes planned both for those who expect to become workers in the business field and also for those who may be planning to enter into other occupations. In some schools typewriting is now offered with the understanding that there are few students who may not derive benefit from the ability to type.

The consumer education movement has tended to borrow some of the topics ordinarily considered in a business course for some of the new courses concerned with the problems of the consumer. These courses are developing an awareness on the part of those enrolled of some of the practices of business which need to be modified and some of the problems of business which may be solved only with the cooperation of the consumer. If all of the graduates of our high schools and colleges became interested in business matters the needed reforms would be much easier to bring about.

There has been a tendency for certification requirements for business teachers in public high schools to be gradually raised by the state departments of education. This increase in qualifications for business teachers has been made possible by the increase in the supply of individuals trained in business education. Several teacher training institutions have started courses in business education in recent years both to prepare teachers to teach business courses in other teacher training institutions and also to prepare teachers for high school positions.

Some of the authorities state that there has been a trend toward offering content or subject matter courses in business education rather than methods courses. It is further stated that this change has occurred largely in teacher training institutions and that it means that instead of teaching about the teaching of typewriting that typewriting itself is taught to the student. Other authorities insist that both the subject matter and methods courses are desirable or that the two should be incorporated in one course and that, for instance, the student should be taught to type and should be taught in the same course how to teach others to type.

The increased interest in business education has been due to the recent depression, to the increased regulation of business affairs by state and Federal authorities which has necessitated increased record keeping, to the fair price acts enacted by many of the States which have tended to fix retail prices, and to the fact that, with the increased taxes and regulations of business enterprises, they must be operated on a very efficient basis if they are to operate with profit.

VOCATIONAL EDUCATION *

By L. H. Dennis

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GENERAL

The year 1938 witnessed a continued and marked increase in the popularity of vocational education. While the term vocational education has not been fully understood, the lay public and the educational profession has rapidly come to a realization that energetic and adequate measures must be taken to provide occupational adjustment facilities for American youth. Much has been said and written during the year on the subject of vocational education. Those who have spoken the loudest, or expressed themselves with the greatest conviction and certainty, have frequently been those who have been inadequately informed relative to the real purposes and objectives and actual accomplishments in this field. Not infrequently have biased statements been issued for ulterior purposes.

SCOPE OF PROGRAM

The term vocational education is much more inclusive than numerous writers and speakers have seemed to realize if one is to judge by much that has been written and spoken on this topic. Often the term vocational education is used when the speaker or writer has had in mind only one phase of vocational education. Some such statements are correct when applied to a limited field or phase of vocational education, but become incorrect when applied to the entire field. The loose use of the term has

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created, and is now creating, some wrong impressions.

The scope of a vocational education program as now conceived under the auspices of the public schools of America is much more comprehensive than the earlier programs inaugurated a few years ago. The scope of the program has been enlarged in various directions. Early references to vocational education usually dealt with industrial education which was frequently expressed in terms of manual training. The inflexibility of the public school system and the reluctance of school administrators to adjust the high school program to involve the full possibilities of industrial education were probably as much responsible as anything else for keeping manual training from ever getting beyond the manual training stage in spite of the real purpose of some of the recommendations concerning industrial education coming from important industrial committees and commissions. As it became clear that manual training was not meeting the need for specific trade training, there again emerged another industrial education movement quite specific in nature and aiming very directly at the beginning of industrial efficiency on the part of the individual being trained.

Even with the development of industrial education on a trade basis rather than on a manual training basis, the program for a time was limited to a very few trades. As the effectiveness of definite training for specific trades became recognized, there gradually came the demand for training in other industrial pursuits. By this gradual process the scope of the industrial education program was steadily and definitely widened. Training for many trades in the industrial field is now included in the industrial education phase of the program.

Vocational training for farm boys was one of the first types of vocational training to become satisfactorily incorporated in the secondary school program. For several years this type of vocational training was limited to farm boys who were enrolled in high schools. Later, evening classes for older farm youth and for adult farmers were organized and from the very beginning proved to be popular. The most recent important trend in the field of agricultural education is the development of a system of part-time classes for out-of-school farm youth. Most of those served by this type of training are in the 18–25-year-old group. With agricultural education as in the case of industrial education, the program was definitely expanded to take in the older age groups, and the methods have become modified in accordance with the needs of the various groups being served.

The home economics education phase of the program has witnessed a somewhat similar development, and the work is by no means limited to those who are regularly enrolled students in our secondary schools.

COMMERCIAL OR BUSINESS EDUCATION

The accomplishments in the field of commercial education can not usually be accredited to the work of any one year. It is the outcome of thought, research, experiments covering a much longer period of time. Some of these ideas have been developed to a greater extent during the more recent years.

One of these is the postponing of training in the skill subjects such as shorthand, typewriting, bookkeeping, office machine practice, etc., to higher grades—the last two years of high school, post graduate classes, and junior colleges. There was a time when offices employed 15-year-old stenographers, but that time has passed. At the present time the employer wants at least a high school graduate, one who has received the benefits of a broader education.

Another accomplishment is the inclusion of a broader education in business background subjects in connection with the skill subjects. A good general education, a broad background of business information, together with training in some skill subject, is the training for which schools are striving now.

A more definite program of guidance is being furthered in order to assist the student in the matter of self-appraisal and thus lead him to a wise choice of a vocation. This activity is manifesting itself by the establishment of special schools in which more concentrated courses may be given to students of like interests who, from previous school records, indicate possibilities of success in a given field. Some of the larger cities have introduced special schools of commerce in order to care more definitely for the needs of students.

In addition to the development of business courses on the secondary school level, rapid progress is being made in the introduction of business courses in the junior colleges. In these institutions it is possible to secure a group of young men and young women, more mature and more highly selected.

The very latest development in Business Education is the formulating of plans to provide training for workers in the distributive trades. No specific training for this class of workers, numbering approximately one out of eight workers gainfully employed, has been provided heretofore. In order to provide opportunities for the worker who renders service to the consumer, equal to the opportunities provided for workers in trades and industries, home economics, and agriculture, Federal aid may be secured in order to organize classes for these workers. The distributive section of the George-Deen Act provides for the distribution of $1,200,000 to assist States in organizing classes, teacher-training programs, and for the actual instruction in this field. Such training will result in a benefit, first, to the employee engaged in distributive occupation by enabling him to render more effective service and providing an opportunity to prepare himself for the more responsible positions in this field; secondly, to the consumer, as it will insure the buyer of better service; third, to the employer and producer by securing a more efficient group of workers. During the year many of the States have availed themselves of this opportunity and have appointed directors and supervisors for the purpose of organizing classes of this kind.

RISE IN VOCATIONAL TRAINING AGE

In all fields of vocational education, the original plans involved largely the full-time group attending high school. The entrance age in vocational training programs was set at 14 years by numerous state laws and by the Smith-Hughes Law in 1917. The age of initial vocational training is gradually rising in keeping with changing employment conditions. The age of 14 years will eventually be too young for entrance into many types of vocational training.

When the secondary school program for the ninth and tenth years becomes better adapted to the majority of youth in our secondary schools, the vocational program for many occupations will then undoubtedly begin with the eleventh or twelfth years, and there will be a steady increase in the enrollment of high school graduates in the various trade schools. The program now extends from the fourteenth year without any upper year limit. Enrollment in the adult evening vocational schools has been increasing by the thousands.

There is again developing an interest in sound apprentice training for the young workers who have left school. America is becoming conscious, however, of the lack of any occupational adjustment program for the great masses of our youth 18–25 years of age. While the scope of the program has been expanded to include nearly all ages, it is rather definitely recognized that the most inadequate part of the program is for the large group 18–25 years of age. It has been estimated that one-third of our unemployed are in this age group.

CCC AND NYA

The Civilian Conservation Corps and the National Youth Administration movements have rendered a genuinely important, stabilizing service to thousands of our youth in this age group. While the educational activities of these services do not seem to measure up to the other values of these organizations, nevertheless it does not behoove administrators of education to criticize these activities too sharply, certainly not until we are courageous enough to cut loose from some of the limiting controls of the present public school program. There is a service which is badly needed by the vast group of out-of-school youth. This service is not all of a recognized educational character as education is now comprehended.

It is appalling to come face to face with the restlessness and frustration of youth. It is not surprising that institutions for juvenile criminals are overcrowded, and that the number in these institutions increases as C.C.C. camps are closed and the N.Y.A. activities are curtailed.

To summarize the situation as far as the scope of the program is concerned with reference to age groups, it can be rather definitely stated as an accepted fact that the vocational education program is designed for practically all age groups beginning with 14–16 years of age with the entrance age gradually rising. It can also be conceded that the greatest undeveloped need for an adequate program lies in the 18–25 year group. There is genuine social danger of major importance unless the situation is adequately met for this group.

INDUSTRIAL EDUCATION

Since the passage of the Smith-Hughes and subsequent acts furthering vocational education the general enrollment trend in part-time education has been consistently upward. The part-time general continuation classes, however, took a decided downward turn from approximately 335,000 in 1930 to 145,000 in 1934, since which time it has remained practically constant. The drop in enrollment in this phase of vocational education, when analyzed, reflects favorably upon the program as a whole. The decreased enrollment may be traced directly to the raising of the school compulsory attendance age, to general education subjects being offered the out-of-school youth, to the raising of the lower employable age level, and to the increased vocational opportunities offered to the in-school youth.

Part-time trade extension and trade preparatory enrollments have risen sharply from less than 40,000 in 1934 to approximately 150,000 during 1938. This exceptional growth is explained by some of the same factors that caused the decreased enrollment in part-time general education classes. However, to these reasons must be added the realization of youth that if they are to secure and hold employment they must be prepared to offer themselves as an economic asset to their employers.

The cooperative part-time diversified occupations type of training program has made a healthy growth in all regions. The fact that this type of class is adaptable to the smaller community centers makes it a valuable adjunct to the vocational program in the less densely populated States. Teacher-training programs for teachers and coordinators and the formation and use of advisory committees have had an elevating influence on all types of trade and industrial part-time education.

PART-TIME CLASSES IN AGRICULTURE AND HOME ECONOMICS

Since 1921, when the part-time class was started in agriculture, progress has not been so rapid as in other types of classes. However, in some States no part of the program has been given greater stress than this program for out-of-school boys who are farming or planning to farm.

The Southern States have enrolled in part-time classes over half of the entire number registered in vocational agriculture, the north Atlantic States over 25%, the north Central States somewhat less, and the Pacific Coast States a rather small portion of the total enrollment. However, in Oregon, for instance, where only three part-time schools existed in 1937, 16 were functioning in 1938 with a total enrollment of 305.

While part-time classes in home

economics have not shown the same growth as the all-day or evening classes, especially since 1930, considerable progress has been made. This has been due to special efforts made in many States to serve out-of-school youth through regularly organized homemaking classes. This type of class is expanding to meet national needs.

In summarizing the activities of part-time education in all services, it is apparent that the increased impetus given this type of class has been furnished by the sincere efforts of the vocational educators to serve out-of-school youth of the nation. So long as present economic conditions exist and technological displacement continues, vocational part-time education will be called upon to supply training to assist bewildered youth in fitting into the complex social system.

PROGRESS IN INDUSTRIAL ARTS

Progress in industrial arts during 1938 has not been manifested in any notable events or dramatic incidents but rather by the continuous advance of certain clearly decernible trends that have been observable for several years past. There are at least eight lines of developments that have shown striking progress during the year. All eight are significant because they are obviously direct effects of the changing social and economic features of contemporaneous American life.

One of the these lines of growth is the rapid expansion of the range and number of course offerings in industrial arts. This is not indicated merely in the increase in the number of general-shop courses but even more in the numerous new unit courses dealing with materials formerly rarely found in industrial arts programs. An unpublished study, made jointly by the Judd Club and Metropolitan Industrial Arts Round Table of Chicago, and reported during 1938, shows that of 71 schools offering industrial arts courses, 13 had dropped courses since 1932–'33, but 41 schools had added courses. These 71 schools were giving experience in 56 different areas of industrial arts ranging from wood work to air conditioning, power laboratory courses, and safety driving. A second line of growth has been the increasing number of courses designed for girls. This is probably one of the most striking of recent developments and promises considerable further development in the years immediately ahead. Another notable development has been a marked increase of interest in industrial arts on the part of general administrators of education throughout the nation. Reports from every section of the country clearly indicate this growing interest so much welcomed by industrial arts leaders. From every direction come reports of new departments being set up and of greatly enlarged physical plants. The ease with which school authorities have been able to secure Federal funds for new school facilities has greatly aided in this growth. As a sort of corollary to the growing facilities provided by school boards, the manufacturers of shop equipment have announced at frequent intervals newly designed machines and other items of equipment specially planned for more efficient school-shop use. With the growth in the development of new equipment designs, has come an unusually large number of new textbooks for shop classes.

A very significant development has been the growing interest in the revision and expansion of elementary school industrial arts, clearly an outcome of the emphasis placed on activity programs by the Progressive Education Movement. Industrial arts, already in a position of leadership in the progressive concept of education, has found itself occupying a most important position in the expanding influence of this important educational movement. Finally, the nationwide emphasis placed upon safety education has increasingly brought to the fore the fine work already being done in industrial arts courses in this phase of modern education. Industrial arts teachers have been turned to by school authorities to direct new courses in safety driving and other aspects of this growing phase of school work.

Altogether, 1938 has been a notable year in the history of industrial arts in the schools. All signs point to an unprecedented growth in this phase of education as a result of the remarkable new interest and emphasis which have characterized the educational thinking of the year.

IMPROVED STATUS OF VOCATIONAL EDUCATION

It took some time to bring vocational education up out of the cellar and to make it respectable. But it has become respectable, and this one fact alone has greatly widened the range of service performed by vocational training with reference to the various mental and performance ability groups served. The withholding of moral approval for this type of education had great influence for a number of years and was one of the major causes for relatively low enrollments.

With the more general recognition of the value of occupational training there has come a marked and rapid increase in the number of students following the vocational education program. It has now come to be recognized that many in the normal ability groups in the high school may perhaps be best served by some forms of occupational adjustment training.

In addition to the groups above mentioned, there is gradually evolving a vocational technical type of training on a post-high or junior college level. It is a matter of much significance that the conception of the service to be rendered by vocational education has so changed that this type of training is now being made available for the whole range of ability levels from the retarded to the above-average groups.

A CHALLENGE TO EDUCATORS

An adequate and sound program of vocational education must, and will be, developed in this country. The serious plight of youth will in itself compel this. The program will be produced by the educators of this country if they are equal to the serious challenge. But they must be prompt in meeting the issue. Otherwise, they will find themselves on the curb watching the procession going by. It is the hope that that educational leadership with prove equal to the challenge, and that the year 1939 will bring forth a sane and substantial development of many additional facilities in the ever widening program of vocational education.

ADULT EDUCATION

By Frank M. Debatin

Dean of University College, Washington University

NUMERICAL GROWTH

The year 1938 in adult education was notable for the great increase in the participation of adults who had not previously availed themselves of the opportunity for further study and for those improved personal satisfactions which are derived from a growing awareness and recognition of one's relation to environment. The year has also been characterized, as a result of increased numbers, by new and continuing studies dealing in large measure with methods, techniques, curricula, and administration, either in relation to separate phases of the field or the complete panorama of adult education.

In regard to the first of these outstanding characteristics of the year, there are the appropriate figures quoted in Cartwright's annual report for the American Association for Adult Education, covering some 30 phases or activities in adult education, and showing a growth from 1924 when the estimated participants were 14,881,500, through 22,311,000 in 1934, to a figure which in 1938 seems to have reached 27,083,000. Mr. Cartwright comments that considerations which have been at work in this program of expansion are, first, the availability of free time for educational participation, and second, the probable fact that hard times stimulate interest in adult education on the part of the public. However complete and conclusive these reasons may be, it is an incontrovertible fact that a revival of opportunities in business and industry has combined with a definitely growing desire for information of events and facts drawn from the social scene and the urgent impulse of the individual to find for himself a more satisfying niche, to bring about increased registrations. In fact, the 10 per cent decrease which many of the formally organized adult education institutions had believed likely for the second half of the year converted itself more or less unexpectedly into increases running in some instances as high as 5 per cent.

EXPANSION IN RESEARCH AND PUBLICATION

Increased study, research, and publication, is evidenced by a long list of pamphlets and books specifically devoted to finding ways and means by which adults may be better taught, by which the materials of special interest and value to adults may be gathered and presented to them effectively, and by which the general organization of adult education activities may become better recognized and contain a structure which will have more lasting elements in it. It is interesting to note that a variety of adult activities which only several years ago disclaimed any connection with formal organization and the need of such pedagogical instruments as unit courses should now be quotable as recognizing "greater and more serious interest in clear objectives and progressive methods among teachers of adult students," or as stating "in administering the school, we have become somewhat formal this year." There may, of course, be danger in such development, but as yet the point has not been reached at which flexibility and a host of suggestions looking toward constant revision and development of internal procedures have been abandoned. It is rather that some of the outlines of the program are beginning to take more definite shape, the teaching personnel is beginning to have certain desirable points of view regarding itself as belonging to a profession, while the full plan of the program of adult education is still beyond the concept of most of its administrators and has not reached any position of finality as yet.

One specific event of the year should be listed as giving further impetus to the natural growths already indicated. This is the report of the President's Advisory Committee on Education. A section of this report makes six recommendations regarding adult education: (1) special Federal grants, beginning at $5,000,000 for the fiscal year 1939–40, and reaching $15,000,000 in 1941–42; (2) stimulating the States to make adequate provision for civic, general, and vocational part-time adult educational activities; (3) providing grants through the extension services of colleges and universities and other appropriate nonprofit agencies as well as through the public schools; (4) recommending central distributing agencies, in effect, adult councils, in the States; (5) providing maintenance of allotments for Negroes; and (6) integrating the new recommendations with the general work relief program of the Federal Government.

Further stimulating activities of a general sort would encompass the following: (1) continuation and publication of the studies being made by the American Association for Adult Education, in which some half dozen new titles have been added during the current year, bringing the publications at present to 13; (2) inclusion of adult education in two publications of the Educational Policies Commission of the National Education Association, namely, *The Purposes of Education in American Democracy* and *The Structure and Administration of Education in American Democracy;* (3) creation of a National Advisory Committee in the educational program of the WPA, combined with an intensification in content of its courses and a program to enlarge enrollment, especially in the literacy classes; (4) growing use of regional conferences for adult education, including some seven held in 1938 at Lake Geneva, Wis., Chapel Hill, N.C., Los Angeles, Toledo, O., Spokane, Wash., Pittsburgh, and Denver; (5) combined studies like that being made of the student personnel in extension divisions by the National University Extension Association and the American Association for Adult Education; and (6) scientific investigations of adult reading which have come to be recognized as affecting the bases of future adult education, and have provided further stimulus to the production of readable books.

UNIVERSITIES IN ADULT EDUCATION

In turning to more specialized interests in adult education, there is the growing recognition by colleges and universities of their responsibilities and obligations in the general matter of assistance and help in community programs. There is also evident in the institutions of higher education a growing tendency to discover and develop criteria in adult education. These deal with considerations of proper instruction, of improved and professionalized training of leaders and teachers, and of more adequate study of the field of adult education as a whole. In the latter category it has become evident that while the university must continue increasingly to bring to its natural community the benefits of its own research and knowledge, it is manifestly impossible for it or any other single institution in a given area to undertake and carry through all the activities created by the wants and needs of adults in modern society. The university should probably and properly assert leadership in this matter. It should, however, also initiate studies by which the various functions may be recognized as belonging to the many other formal and informal educational organizations in its territory. In this connection, the participation of the university in adult councils, whether city or statewide, seems essential, and an aggressive spirit of helpfulness portrayed in friendly relationships is among its natural and essential duties. As the repository of the knowledge of the ages, and as interpreter of new knowledge admitted only after investigation and research of the highest standards, the university can and should fulfill an important place in adult education.

That this realization is more widespread can be seen from the individual reports made by the member institutions of the National University Extension Association and of the Association of Urban Universities. A few of the more outstanding achievements of the year might be listed. In the first place, there is a new type of course being offered in many institutions, of which one at the University of Akron is entitled "Community Appreciation" and covers such public matters as health, police, fire, recreation, water supply, and education. Safety education, vocational guidance forums and clinics, women's activities programs, forums on Federal, state, and city labor laws and their administration, and especially science progress courses, involving at New York University television, x-ray, vitamins, laboratory techniques for science group sponsors, and many others, are combining informality of presentation and content with the highest type of available scientific material.

A course in "Music Appreciation" at Carnegie Institute of Technology utilizes the Pittsburgh Symphony Orchestra as the interpreting instrument under the leadership of a distinguished conductor, with the commentaries of an outstanding music critic. "Literature of Today by Authors of Today" and "Clashing Concepts in Contemporary American Thought" are two other titles which could probably not have been discovered in university catalogues over a year or two ago. Even though the same content might have been presented then in other courses, the titles would have been more stereotyped and the method of presentation more rigorously academic. The motion picture as an instrument of education, the radio treated scientifically as a channel for information and education, the importance of the technical and cultural needs of women in industry, and many similar functional fields are receiving wide study and application.

A further word should be added about the Center for Continuation Study at the University of Minnesota. Now in approximately its second year, it has somewhat consolidated its purpose and restricted its influence more definitely to homogeneous groups, though these are of a great variety and include practically every known human interest. Its chief problems include making the public aware of its facilities, achieving a wise balance between institutes of various grades, and selecting instructors and students in such a way as to maintain a high level of educational efficiency. The membership of the institutes is somewhat different from that of most extension and university activities in that the average age is 45 and nearly three-fourths of the students have had college training. This may indicate that the Center is especially helpful in re-orienting those whose formal education preceded the major recent social upheavals and that it has an unusual opportunity for setting progressive sites for persons with a record of unfolding achievement.

EDUCATION BY RADIO

Education by radio, particularly as it concerns adult interests, has now become so thoroughly accepted in the public mind that the original inspiration given by the National Advisory Council on Radio in Education, the Committee on Education by Radio, and the United States Office of Education has eventuated in the establishment of educational directors and departments in the major broadcasting companies. Dr. James R. Angell began his work for the National Broadcasting Company in 1937, and Lyman Bryson organized and began the work of the Adult Education Board for the Columbia Broadcasting System late in the same year. A similar activity is part of the work of the Mutual Broadcasting System. These definite ventures have resulted in a number of programs, again informal in nature, attractive for the adult listener who wishes to learn as he currently needs his knowledge, and dependable in content.

It is estimated that 19.5 per cent of the time of one of the major broadcasting systems was devoted to educational programs in the last complete calendar year, and the purpose of such programs was stated as being "to secure a well balanced pattern covering as wide a range of interest and subject as possible, and to equip these programs wherever possible with additional working tools for the use of the listener." The Music Appreciation Course in four sections supplies such working tools in the form of student notebooks and instructor's manuals. Practically every major educational program furnishes free, or at small cost, literature in the form of outlines, syllabi, bibliographies, and reprints. The field of the drama is represented by a program of Great Plays. Parent education is represented by such a program as "Wings for the Martins" under the joint direction of the National Congress of Parents and Teachers and the United States Office of Education. "Americans at Work" introduces the listener to a variety of everyday workmen such as the railway expressman, the telegrapher, the baker, and many others, and has the cooperation of the Workers' Education Bureau of the American Federation of Labor.

Of a different sort are "The People's Platform," a discussion of current topics by four or five individuals representing various economic, social, and educational backgrounds; the "Chicago University Round Table," offering analyses by experts of the most important social, economic, and international questions currently in the public mind; and "America's Town Meeting of the Air," now in its fourth season, bringing to bear upon similar questions not only expert opinion, but audience reaction; and most recently the discussions of listener groups organized and supported through the latest expansion in the program of Town Hall, Inc., in New York have been added.

It is perhaps not an overstatement to say that these programs are educational in nature and are giving new vitality to both the formal and informal study of adults. With the general cooperation of the American Library Association, in its booklet by Faith H. Hyers, *The Library and the Radio,* and through other careful evaluations, these continuing efforts are translated into educational media. Whatever else is known of the results to date, there can be no controversy in the statement recently made by Lyman Bryson: "We know enough now to say that the radio is capable of great usefulness in adult education."

FORUMS

Cartwright has said in his annual report for 1937–38 that "the country has broken out in a veritable rash of forums during the last year." This was to be expected as a natural outcome of the efforts of the American Association for Adult Education, the Adult Education Division of the WPA, and especially the work conducted by the United States Office of Education under its present Commissioner, Dr. John W. Studebaker. *Choosing Our Way,* which is a study of the American forums, published early in the year, gives a vivid picture of the work accomplished by the United States Office of Education in its various centers, and also portrays somewhat of the widespread use of the forum by other agencies. Audiences everywhere seem to have shown tremendous increase in size, and commensurate with this, a deepening of the intelligent understanding of the discussion method and of the usefulness of wise and careful examination of current problems.

Perhaps the chief addition to the mechanics of the forum is to be found in Dr. Studebaker's plans for cooperative forums under the direction of his office. These, financed through monies derived from the relief funds, are established in sparsely settled areas in such a way as to justify the engagement of one forum leader on a full-time basis. Usually five communities cooperate and, where the population is over 5,000, one meeting is held every other week; where the population is between 5,000 and 15,000, there is one meeting per week; and in larger communities, two meetings per week. The sum of $5,000 is granted as the salary of a leader, and $500 as contingent expenses. This makes the establishment of community forums possible in areas not usually fortunate enough to have such opportunities, and also permits of expansion of this program by the local authorities through the addition of local funds of reasonable size. Fifteen States are now participating in such an arrangement and, in the early part of 1938, 153 communities held 1,935 forum discussion meetings under 12 forum leaders with an attendance of 380,130 persons.

VOCATIONAL EDUCATION

The passage of the George-Deen Act not only added to the already existing funds furnished by the Federal Government as subsidies for vocational education, but also introduced this assistance for the distributive occupations. Consequently, some 30,000 new enrollees in 500 centers are availing themselves of the classes and courses thus established. These are, of course, adult persons drawn from the various occupations involving managerial functions, sales duties, and a variety of services which bring the individuals in contact with the public. Retail store management, salesmanship, merchandising, business conduct, and the fundamentals of arithmetic, handwriting, and English are among the offerings recently developed under this extension of Federal assistance.

While vocational education has long benefited by Federal subsidies and this addition to its resources may not call for any special consideration of the wisdom of Federal subsidy for education, it is none the less true that this expansion, combined with the various recommendations in the report of the President's Advisory Committee on Education already referred to, has created widespread discussion of this problem. In the main, of course, and in its largest influence, the matter of Federal subsidy would affect what might be described as pre-adult education. Yet the increase of such help for part-time vocational and agricultural extension, as well as the proposed earmarking of funds for general adult education, points to several things. Inevitably there would be a readjustment between the work done by publicly supported institutions and those privately endowed. The wisdom of throwing all assistance to the publicly supported institutions is being questioned to such an extent that there is a noticeably increasing number of provisions which permit, and perhaps soon shall urge, participation by private institutions in educational programs enjoying Federal and state support. This shift in opinion is a recognition of the somewhat greater wisdom of utilizing in the development of an educational program all the available resources of a community; that education is not a program of competition but distinctly of cooperation, and that the freedom of choice of program more inherent in private than in public educational institutions is valuable to everyone because it frequently enables the private organizations to try out new ways and bypaths which the restrictions of the public institutions do not always permit.

The growth in Federal and state subsidies and the increased legislation for adult education in a number of States, notably, North Carolina, Wisconsin, Utah, California, and Pennsylvania, providing funds for adult education, may and will bring financial support for the use of communities where there are undoubted needs for this phase of education but where leadership and organization are lacking. The growth in teacher training courses is a step in the right direction for providing leadership and giving instruction in administration. The retraining of in-service teachers for use in adult programs will not be sufficient to provide the numbers nor will such retrained individuals always be the most effective adult teachers. Therefore, thought, study, and recommendations are being devoted to a fuller understanding of this problem, the provision of means for solving it, and insistence upon the fact that increased programs for adults must go forward in some definite relationship with the increased number of leaders and proper facilities for meeting the new requirements of adults. (See review on Vocational Education).

LIBRARIES

The library has always played an important and central rôle in adult education. The report of John Chancellor, adult education specialist for the American Library Association, each year indicates the extent to which the activities of this group advance in point of effective service. Mr. Chancellor indicates that libraries throughout the country have increased during the year their staff assignments to Advisory Service for Readers, extended the study of remedial reading, and cooperated in research dealing with the educational motion picture. This latter has also been the subject of considerable investigation at the General College in the University of Minnesota. Furthermore, according to Mr. Chancellor, there are such forward steps as the appointment of a Coordinator of Adult Service and an Adult Education Consultant in the Washington, D.C. Public Library. There are some seven state library associations now having Adult Education Committees, and there is a constant appreciation of the need of flexibility of service concurrent with the increase of more sincere concern about its effectiveness.

OCCUPATIONAL GUIDANCE

A number of activities previously reported in these pages have gone forward during the year and should be recorded in this summary. In the matter of guidance, the National Occupational Conference has conducted a tour of the country for some 13 city superintendents. While this has perhaps in mind the welfare of adolescents more than of adults, the resulting reports and recommendations and the continued publication of pamphlets on job analyses, are of great use and helpfulness in counseling and advising adults. The interim report of the NOC, based on the tour of inspection and study, indicates three major points in a guidance program: (1) occupational guidance and counseling, (2) occupational training, and (3) placement. These, of course, extend beyond the secondary level and may in many instances continue well through the adult's active economic life.

PARENT EDUCATION

In the field of parent education there is at the present time a considerable fever of reorganization. The use of George-Deen funds to employ Adult Homemaking Supervisors has added some stability to the program of parent education. The development of a program of Family Life Education in the Educational Division of the WPA and the creation of a National Advisory Committee have sent the roots of parent education farther into the population's soil. The 50th anniversary of the founding of the Child Study Association of America in New York is an indication of the long continued permanence of this work. In many individual institutions, in social agencies, and for the country as a whole, there is now a definite re-evaluation of what has gone before, with a desire to reaffirm results before advancing further. One interesting and significant publication of the American Youth Commission which has definite bearing on adult education is its Maryland study published under the title *Youth Tell Their Story*.

PUBLICATIONS

It would be difficult and perhaps unnecessary to mention all the individual titles that have been recently added to the literature of adult education. However, in addition to those that have been mentioned incidentally in preceding paragraphs, some half dozen should be pointed to as further indication of trends. *Administration of Adult Education* by the author of this article attempts to bring together a miscellany of information and procedure which will be of help to school principals and superintendents, directors of extension divisions, and others charged with new or continuing adult education units. *The Rôle of the Library in Adult Education,* edited by Louis R. Wilson, contains a large number of documents originally presented at a meeting of the American Library Association for the special consideration of adult education problems. The publication by the California Department of Education of *Annotated Bibliography on Adult Education,* in two volumes, containing respectively 1,271 and 1,783 titles from magazines, pamphlets, and books, is an outstanding effort to make available the literature of the field. The final chapter in this bibliography contains a list of 12 selected books for special consideration. The publication of adult education *Units of Study* is going forward rapidly. A monograph by Andrew Hendrickson, *Adult Education Courses of Study—An Appraisal,* will prove an aid to those who wish to examine intimately such activities and to prepare similar material for their own use. Bulletins of the United States Office of Education contain program and curriculum material in several fields, and *The Printed Page and the Public Platform,* published by the American Library Association, coordinates the forum and the library. Finally, Herbert Sorenson's *Adult Abilities* adds considerably to the knowledge of adult characteristics and interests, and contains helpful suggestions and recommendations for the conduct of adult activities. These volumes and many others are notable in establishing the permanence and influence of adult education.

THE EDUCATION OF NEGROES

By William Anthony Aery

Director of Education, Hampton Institute

BASIC PROBLEMS

The education of Negroes during 1938 was conditioned in many directions by lack of family income, as well as by lack of adequate income in those States that have a relatively high proportion of Negroes in the population; for example, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma, and Texas.

The Advisory Committee on Education, in its report to the President Feb. 18, 1938, said concerning Negro schools (see *The Federal Government and Education,* p. 4): "In most of the States where there are separate schools for Negro children, the schools for whites are below the national average, yet Negro schools are only about half as well supported as the white schools. Because of the economic relationships that exist between the two races, the low level of education among Negroes is a severe burden, not only on themselves but on all who employ them or deal with them. Even in Northern States, the large influx of Negroes from the South makes the quality of their previous training a matter of vital importance to the localities where they live and work."

A gloomy picture was drawn of the South's condition by the National Emergency Council Report, dated July 25, 1938. The section on Education stated that "in 1936 the rate of natural increase in the population was greatest in the southeastern and southwestern sections, precisely where the lack of educational opportunity is already most pronounced. . . . The South must educate one-third of the nation's children with one-sixth of the nation's school revenues. . . . The South collects in total taxes about half as much per person as the nation as a whole. . . . In 1936 the Southern States spent an average of $25.11 per child in school, or about half the average for the country as a whole. . . . In 1935–1936 there were actually 1,500 school centers in Mississippi without school buildings, requiring children to attend in lodge halls, abandoned tenant houses, country churches, and, in some instances, even in cotton pens." With this economic background it is amazing that so much was accomplished in the education of Negroes for 1938.

A comprehensive study of the education of Negroes during 1938 shows that the American nation awakened to some of the basic needs of over 12,000,000 Negroes and made distinctive progress in resolving some important educational problems.

NATIONAL PROBLEMS

The national aspects of the education of Negroes included several important conferences which were held in February at the Atlantic City meeting of the American Association of School Administrators (see *National Educational Outlook among Negroes,* April, 1938): eighth annual meeting of the National Advisory Committee on the Education of Negroes, which was in charge of Dr. Ambrose Caliver, senior specialist in the education of Negroes for the U. S. Office of Education, who was also in charge of the Federal study of vocational education and guidance for American Negroes; meeting of the Committee on Promotion of Guidance of Negroes in Secondary Schools and Colleges, at which Prof. D. A. Wilkerson of Howard University made an important report for the National Vocational Guidance Association; and meeting of the National Education Association Committee on Cooperation with the American Teachers Association (Negro), conducted by Dr. N. C. Newbold, director of Negro education for North Carolina, at which Dr. R. B. Eleazer reported on the organization of courses in race relations and Dr. Ullin Leavell presented the case of securing "a more considerate and honest treatment of Negroes in textbooks."

On Nov. 10 the ninth annual radio program on the education of Negroes went on the air over a nationwide broadcast, which was sponsored by the U. S. Office of Education and arranged by Dr. Caliver. The program included an address by Carrington L. Davis, principal of the Dunbar High School of Baltimore and president of the American Teachers Association.

Since the education of Negroes has become a national rather than a strictly regional problem, the publication (see *Journal* of the National Education Association, November, 1938) of "Racial Enrichment of the Curriculum" by Charles A. Daly was significant. Daly concluded that, on the basis of his experience in the Garfield School of Detroit, "Negro children took pride in their race as they knew more about that race and that white children came to a finer understanding and appreciation of the Negro race as they had the opportunity of studying the facts of Negro life and history."

THE GAINES CASE

The high spot in the education of Negroes for 1938, to judge by newspaper comment, reverberations throughout the nation, especially in political circles in the Southern States, and jubilation among the liberals in education, both white and Negro, was the Gaines case.

On Dec. 12, 1938, the United States Supreme Court reversed the decision of the Missouri Supreme Court and ruled that a State must give equality in educational privileges to white and Negro law students (see *School and Society,* 48:787–788, Dec. 17, 1938).

Specifically, this decision meant that the Law School of the University of Missouri either must admit Lloyd L. Gaines, a Negro of St. Louis, as a student, or a school of law must be established at Lincoln University, which is maintained by Missouri for the higher education of Negroes. (See Section on Supreme Court and Constitutional Law; also, Race Conditions in the United States).

Virginius Dabney of Richmond, Va., writing in *The New York Times,* Dec. 18, 1938, says: "In several of the far southern commonwealths, state-supported institutions of higher learning for Negroes are entirely lacking. What these States will do about the Supreme Court's decision is uncertain. There is talk that they might even refuse to do anything, and then would make it so uncomfortable for any Negro applying to one of their white institutions for admission that the practical effect of the court's ruling upon them might be virtually nil."

Another phase of the Gaines case was covered in the *Chicago Defender,* Dec. 24, 1938, which quoted Dr. John Hugh Reynolds, president of Hendrix College for whites at Conway, Ark., as saying that he was in favor of the admission of qualified Negro students to white graduate and professional schools.

EQUALIZATION OF SALARIES

Professor C. H. Thompson (see *Journal of Negro Education,* April, 1938) summarized the problem of equalization of white and Negro teachers' salaries in Virginia, which had been taken up by the Virginia State Teachers Association, composed of Negro men and women, and the National Association for the Advancement of Colored People. "The State of Virginia, as well as practically all of the States which maintain separate schools for white and Negro pupils," he said, "has never paid Negro teachers as much as white teachers, even when they had the same training and were doing the same kind of work." He pointed out that the average annual salary ($547) of the Negro instructional salary in Virginia, for 1936–1937, was only 59.8% as much as the white ($913), while that of the Negro classroom teacher ($537) was only 63% as much as the white ($847)." He added that the disparity in salaries had steadily increased since 1906–1907. "Although the white teachers received on the average only 38% more salary than

Negro teachers in 1906–1907, yet in 1936–1937 this difference had almost doubled, equalling 66.9% at the end of the thirty-year period."

William M. Cooper (see *National Educational Outlook among Negroes,* February, 1938) also discussed the struggle that Negro teachers in Virginia are making to secure equal salaries. He pointed out that, while Negro teachers had consistently chosen to measure up to the same standards as white teachers, they had failed to secure better salaries.

The experience of the Maryland Negro teachers in their campaign for equal salaries was reported in the *Norfolk Journal and Guide* (April 30, 1938). Charles H. Houston declared that the agitation for teachers' salaries has been supported by many local teachers and that it had increased Negro self-respect. "It has taught Negroes," he said, "that there is only one system of public schools in any State; and that where Negroes and whites go to separate schools, the separate schools are merely separate divisions of one common system. . . . It has also taught Negroes that just as there is only one tax rate, there is only one public treasury, not on the basis of race, but on the basis of public need."

GENERAL EDUCATION BOARD

Founded in 1902, the General Education Board (New York) has steadily given financial support to plans for the development of more adequate facilities for the education of Negroes (see *School and Society,* 48:503–506, Oct. 15, 1938). Dr. Albert R. Mann, the Board's director for Southern education and former provost of Cornell University, in his *Report on the Program in Southern Education* devoted over 18 pages to the education of Negroes. He called attention to the increased State support for Negro schools and to the Board's newer policy of providing "assistance in the development of a few important regional centers of higher education of Negroes and to some of the promising Negro State agricultural and mechanical colleges." He outlined the Board's support of state agents for Negro schools in the state departments of education, aid to bring about the absorption of private schools into the public-school system, and the improvement of rural teacher education.

The General Education Board spent $140,000 for salaries and expenses in 14 Southern States of state agents, assistants, and supervisors. The Board also appropriated $7,175 for the in-service training of teachers in small Negro rural schools, for demonstration teachers in summer schools, and for the production and teaching of courses which were designed to meet the needs of rural teachers.

Grants were made by the Board to four institutions—Atlanta ($3,500), Fisk ($3,000), Hampton ($1,720), and Tuskegee ($2,000)—for improving summer-school programs. A grant of $15,200 was made for a cooperative program between the South Carolina State College for Negroes (Orangeburg) and the Penn School (St. Helena Island, S.C.), which gave the State an improved observation and practice center for teachers at the State College. It also made possible the better training of agriculture and home-economics teachers in rural schools.

During the past decade the General Education Board cooperated, for the improvement of higher education, with five major centers—Atlanta, Fisk, Meharry, Hampton, Tuskegee, and Howard.

The Board continued its fellowship grants for Negro teachers. Its object was to help young teachers who desired to continue their preparation in Northern and Midwestern institutions and thereby meet a real need in improving Southern higher institutions for Negroes.

The General Education Board continued to aid Negro institutions increase their endownment funds, erect new buildings, increase teachers' salaries, improve heating and power plants, secure and improve libraries, gather and edit literary materials, collect Negro folk tales and folk music, and distribute Dr. Lance G. E. Jones' study, *The Jeanes Teacher in the United States, 1908–1933.*

JULIUS ROSENWALD FUND

Dr. Edwin R. Embree, president of the Julius Rosenwald Fund (Chicago), in his *Review for the Two-year Period, 1936–1938,* stated that the Fund had selected a few definite and limited programs: "Improvement of rural education, especially in the South; the development of leadership among Negroes and among white Southerners through fellowships; the promotion of facilities for Negroes in advanced education and health." From July 1, 1936 to June 30, 1938, the Fund expended $1,558,326.

The Fund's activities in Negro health follow: the development of three institutions—Provident Hospital (Chicago), Andrew Memorial Hospital (Tuskegee, Ala.), Flint-Goodridge Hospital (New Orleans)—"as demonstrations of high standards of service to patients and as training centers for Negro physicians, nurses, and administrators"; development of personnel; "the influencing of public opinion, both colored and white, so that the health needs of Negroes will be appreciated and more adequately met." The Fund during 1936–1938 spent approximately $300,000 on programs in Negro health. During a ten-year period the Fund gave $100,000 to support the program of the Commission on Interracial Cooperation.

ELEMENTARY EDUCATION

Garnet C. Wilkinson of Washington, D.C. spoke before the New York convention of the National Education Association and emphasized these points: (1) approximately 56.3% of the total Negro population live in the rural areas and about 40% of the rural population are of school age; (2) in many of these rural areas schools for Negroes are comparatively inaccessible; (3) rural schools for Negroes are often located long distances from the homes of the children whom they serve ("43.1% who are eight years old and younger live two miles or more from the schools they attend and 18.1% live a distance of three or more miles"); and (4) facilities for the transportation of Negro children to and from rural schools are meagre. He said:

"Bad roads, great distances to travel, lack of transportation facilities, one-room schools scattered far and wide in the rural areas of America, where the major portion of the Negro population lives, are powerful handicaps to the proper education of Negro children.

"School terms for Negro children in the rural areas are shorter by one and a half months than the accepted standard. . . . Negro children are thus placed at a considerable disadvantage in their preparation for solving the problems of living in a complex, democratic society."

SECONDARY EDUCATION

Carl A. Jessen in *Needed Research in Secondary Education* pointed out that "study of Negro secondary education needs to be in the nature of basic investigation of educational services suited to the demands of Negro life and culture." He indicated eight lines of further study, including factors affecting the variation of support, the elimination and retardation of Negro youth, the trends of curriculum changes in individual schools, a vocational education and guidance survey, the availability of elementary education, and an intensive investigation of programs of studies and curricula of Negro high schools.

Dr. Ambrose Caliver suggested the following additional needed studies: the relation of teaching certificates to work that teachers are called upon to do; the training of teachers and the courses which they teach; the articulation of Negro secondary schools and colleges; the content and methods of teaching representative courses; trends in reorganization; provision of extra-educational services; and a study of citizenship training in secondary schools for Negroes.

According to the Southern Association of Colleges and Secondary Schools, there were, during 1938, in accredited Negro secondary schools 1,363 teachers and 34,431 pupils (13,646 boys and 20,785 girls).

VOCATIONAL EDUCATION SURVEY

Dr. Caliver, senior specialist in the education of Negroes, U.S. Office of Education, directed the National Survey of Vocational Education and Guidance of Negroes and prepared a report which contains important data for all who are engaged in the work of making adequate plans for improving the vocational and educational status of American Negroes (see U.S. Office of Education *Bulletin,* 1937, No. 38).

The Federal Survey recommended as follows: (1) Negro land-grant colleges should make special studies concerned with the future vocational success of Negroes, should cooperate with all agencies to improve the employment status of and educational facilities for Negroes, and should encourage Negro students to pursue vocational courses other than those leading to teaching; (2) Negro teachers should act similarly; (3) more attention should be given to the improvement of general education of Negroes; (4) schools for Negroes should meet the modern occupational needs and interests of their students and should institute a definite program of guidance which qualified persons should direct; (5) extension education should be established with a view to repairing defects that resulted from inadequate earlier education; (6) schools should endeavor to change the attitude of Negroes toward occupations; (7) individuals and groups should attempt to promote equitability of educational opportunity and distribution of funds without regard to race or color.

AGRICULTURE

Young Negroes have been organizing for many purposes and not the least important of them has been the improvement of rural life. The New Farmers of America, founded in Virginia in 1927 by George W. Owens, met in fourth annual convention at the Georgia State Industrial College (Savannah), Aug. 21–24. The 541 Negro boys, "who are or have been students of vocational agriculture" in the public schools, represented 800 chapters of the New Farmers of America, which, according to S. B. Simmons, executive secretary, have a total paid-up membership of 20,000. The NFA is a non-profit national and voluntary association of Negro boys in 16 southern States who wish to develop confidence in themselves and the farm program; create interest in farm life and develop leadership ability; improve rural home life; and encourage both thrift and cooperation. These boys had over $12,000 on deposit in thrift banks and over $40,000 invested in farming.

W. N. Elam, Federal agent for agricultural education (special groups), reported to the Southern Regional Conference, held at Howard University, March 29-April 1, 1938, on his study of the facilities for training teachers of vocational agriculture in the Negro land-grant colleges and on the detailed study of teacher-training in North Carolina, South Carolina, and Georgia made by H. B. Swanson. He suggested that each State should develop a plan for studying the content of the technical agricultural courses in its Negro land-grant college and revise these courses so that they will deal more directly with the problems that the teachers of agriculture encounter. Since over 90% of the graduates in agriculture of the Negro and-grant colleges go into teaching (as compared with 41% for whites), Mr. Elam urged upon them the importance of training teachers of vocational agriculture.

The conference brought together representatives from 17 States and the District of Columbia. It expressed the interests of over 50,000 Negroes who had been studying vocational agriculture in 18 States under 700 teachers in 2,000 schools. Some of the conference problems follow: training of teachers (pre-employment and in-service); preparation and use of subject-matter materials; checking effectiveness of training; and research.

BUSINESS

Garnet C. Wilkinson, on June 30, 1938, declared at the New York meeting of the National Education Association that not enough attention had been paid to the business or commercial education of Negroes, although the purchasing power of Negroes could be roughly estimated at $2,000,000,000 a year. He urged men and women to give Negro youth, who have the aptitude and capacity for success in business, the opportunity of preparing themselves to own and operate stores, shops, and other business enterprises. Through vocational training in business "lie golden opportunities for service."

At the Houston meeting of the National Negro Business League, presided over by C. C. Spaulding of Durham, N.C., Governor James V. Allred of Texas spoke. The League held general discussions on "Looking Ahead for Local Organizations" and "Looking Ahead for Small Business Enterprises." Joseph W. Evans, vice president of the United States Chamber of Commerce, spoke on "Booker T. Washington: Ambassador of Racial Goodwill." Far-reaching publicity was given to the annual meeting of this organization of Negro business men and women.

At Durham, N.C., there was held (see *Chicago Defender,* July 9, 1938) an important conference on "Are Secondary and Collegiate Schools Forgetting the Little Man on the Corner?" Leading business men and educators agreed that there should be a survey of local Negro business enterprises. When the survey was made, it was discovered that Negroes through fear were unwilling to give information. They could not easily see how the gap between the school and community could be bridged.

The survey, however, revealed that "generally barber shops were poorly ventilated; cafés were unsanitary; beauty parlors have favorable locations, but failed to attract many new customers; service stations were usually well kept, but customers did not usually return for a second time; grocery stores and meat markets were poorly stocked or the arrangement of stock was unsystematic; and books were not kept systematically.

"Of the 146 Negro businesses, 117 were simple proprietorships, 13 were partnerships, and 16 were corporations. . . . Approximately 388 of the employers or employees had attended high school, while only 157 were below high-school level. There were included in this study 117 part-time and 248 full-time employees."

HIGHER EDUCATION

The year 1938 was characterized by a nation-wide as well as regional interest in higher education for Negroes.

In 110 Negro colleges and universities the enrollment for 1938 was 33,915 (male, 14,722 and female, 19,161), including 12,688 freshmen, according to Martin D. Jenkins (see *Journal of Negro Education,* April, 1938). The number of Negro college students per 1,000 of Negro population was relatively small as shown by the following examples: Alabama, 3; Arkansas, 1.4; Delaware, 2.2; Florida, 3; Georgia, 2.4; Kentucky, 3.9; Louisiana, 2.5; Maryland, 3.5; Mississippi, 0.8; Missouri, 2.5; North Carolina, 4.5; South Carolina, 2.6; Tennessee, 5.9; Texas, 4.9; Virginia, 4.4; and West Virginia, 9.4. The rate for the District of Columbia was 14.9.

HAMPTON INSTITUTE

During a three-day program, April 20–23, 1938, Hampton Institute, founded by Gen. Samuel C. Armstrong, soldier-educator, celebrated its seventieth anniversary. The principal address was delivered by Mrs. Franklin D. Roosevelt, who told the Hampton students (see *Newport News Daily Press,* April 23, 1938) that, "as citizens of the future, they should strive to dissipate ignorance and fit themselves for changing conditions of which they must be a part."

Mrs. Roosevelt spoke on "Seeking a Place in a Community." She said in part: "Minority groups very often feel that they have not as much responsibility because they have not as much influence. . . . If you belong to a minority group, you have to realize that your situation is very much the same as the situation of all women has been for a good many years. . . . In seeking the place which you can fill in the community, remember that it will require the best that is in you.

It will require you to learn all you can of practical things, of academic things; but, above everything else, it will require character."

ST. PAUL SCHOOL

The golden jubilee celebration of the founding of the St. Paul School (Lawrenceville, Va.), now a junior college, by the Rev. James Solomon Russell, a former student at Hampton, brought together, during the period May 1–3, a host of outstanding white and Negro leaders in education, religion, social work, and civic life. *The Southern Churchman* (May 14, 1938) paid warm tribute to the services of Archdeacon Russell in uplifting a race and contributing to the peace and prosperity of a large area of Virginia.

NEGRO WOMEN'S COLLEGES

President David D. Jones of Bennett College (Greensboro, N.C.), founded in 1873, declared that Negro women's colleges have taught the ideal and are attempting to equip young Negro women for the full leadership that is required in helping to solve the complex problems of modern civilization. "Women," he stated in the college edition of the *Norfolk Journal and Guide,* "have an important social rôle to play. If the world is at the crossroads trying to decide between that which is good and that which is evil, surely woman must have a share in this decision." President Jones referred to the excellent work of two other colleges for women—Spelman College, Atlanta, Ga., and Barber-Scotia Junior College, Concord, N.C. Bennett College had an enrollment of over 300 women and 12 buildings during 1938.

HOWARD UNIVERSITY

President Roosevelt referred to Howard University as follows: "Here is a record of which the Negro race may be proud. It is a record of which America is proud." In the nine undergraduate, graduate, and professional schools, during 1938, there were over 2,000 Negro students. Howard has over 10,000 graduates at work in 43 States and 24 foreign countries. A majority of these graduates have become teachers and have devoted their lives to the training of youth and to the building, directly and indirectly, of an effective system of education in the South. Other graduates have become ministers, physicians, surgeons, lawyers, dentists, pharmacists, engineers, architects, scientists, business men, and workers in many professions and occupations. The physical plant, during 1938, included 26 buildings, estimated to be worth $6,000,000, exclusive of furniture and equipment. A PWA grant provided a $1,000,000 library building which was completed in 1938.

According to *The New York Times* (Sept. 4, 1938), the Howard University Library is the largest and most complete in Negro education. This building is one of the new Howard buildings, constructed in accordance with a 20-year plan of development that has been approved by the Federal Government. Plans got under way, during 1938, for a national Negro Museum at Howard for the housing of original contributions of the Negro to art, science, literature, and the drama.

LAND-GRANT COLLEGES

The Negro land-grant colleges, according to the *Quarterly Journal,* Florida Agricultural and Mechanical College (January, 1938), have placed emphasis on higher life values—Christian character, service to mankind, good citizenship, appreciation of music, painting and sculpture, and acquaintance with the best in literature, as well as the highest technical and industrial training that prepares men and women to earn a livelihood.

The Association of Negro Land-grant College Presidents issued in November a Findings Committee Report that emphasized the following: (1) restatement of the aims of education in terms of changing educational demands, needs of the race, and job opportunity of the Negro population; (2) consumer education for college students; (3) comprehensive health programs for colleges which should include group and individual health services; (4) educational and vocational guidance; (5) improvement of rural life, especially for 9,250,000 Negroes living in the South; (6) Federal aid and the equitable distribution of established funds; (7) enrichment of student life through the promotion of non-academic, non-credit bearing activities; (8) professional development of faculty members; (9) practical approaches to everyday problems in all instructional procedure; and (10) program of action "to maintain the rights of all men" (see *School and Society,* 47:411–413, April 26, 1938).

Thirteen Negro land-grant colleges (see U.S. Office of Education, *Circular* 175, November, 1938) reported that for 1937–1938 they had received the following sums of money: student fees, $321,814 (increase of 13.2% over 1936–1937); endowment income, $25,282 (increase of 5.4%); public sources, $1,963,562 (increase of 9.6%); sales and services, $163,037 (increase of 100.4%). These same institutions spent for educational and general purposes the sum of $2,052,403, an increase of 20%. The capital outlay was only $559,963, an increase of 18%.

Twenty-six Negro institutions of higher education, including 13 land-grant colleges, 1 teachers college, and 12 universities, colleges, and professional schools privately controlled, reported for 1937–1938 the following sums received: student fees, $1,008,499; endowment income, $751,096; public sources, $2,719,330; private gifts and grants, $443,802; sales and services, $206,504. These institutions spent for educational and general purposes the sum of $4,687,610 and made capital outlays amounting to $950,466.

An analysis of the income for 1937–1938 of 26 Negro institutions of higher education shows that, based on 1929–1930, the student fees stood at 128.8%; endowment income, 93.2%; public sources, 137.2%; private gifts and grants, 83.3%; sales and services, 243.7%. In short, Negro higher education is receiving more public support ($2,719,330) and less from private gifts and grants ($416,334).

The expenditure on these institutions for 1937–1938 was $3,973,522, or 114.1% based on 1929–1930, for educational and general purposes, while that for capital outlay was $728,338, or 50.3% on the 1929–1930 figure.

TEACHER EDUCATION

A democratic philosophy for Negro teacher-education institutions (see *Quarterly Review of Higher Education among Negroes,* April, 1938) was presented by Dr. Reid E. Jackson, associate professor of education at Dillard University (New Orleans). He declared that Negro colleges have been dominated by two purposes in their teacher-education programs: meeting the State requirements for certification and equipping prospective teachers with routine principles and techniques of teaching. He offered a reconstruction program which included the principle that education for the Negro is no different, basically, than that of the majority group.

The American Teachers Association, of which Carrington L. Davis, principal of Dunbar High School in Baltimore, is president, carried on a vigorous national campaign to increase its membership among Negro teachers and summarized its basic program (see *National Educational Outlook among Negroes,* December, 1938) as follows: equal pay for equal service; equal length of school term for every child; equal facilities (buildings, grounds, books, equipment, supplies); fair and proportionate expenditure of public funds for school transportation; tenure based upon efficiency and good behavior; Federal subsidy of public education; textbook recognition of the contribution of the Negro to the development of American civilization.

The membership of the Association included teachers and organizations in 28 States. Over 3,000 Negro men and women belonged to the Association and were represented at the thirty-fifth meeting, held at Tuskogee, July 26–29, 1938. A resolution was passed asking that the age limit for Negroes receiving NYA assistance for graduate study should be raised from 24 to 35 years.

ADULT EDUCATION

The three-day Conference on Adult Education and the Negro, which was held at Hampton Institute Oct. 20–22, 1938 under the auspices of the American Association for Adult Education, the extension service of Hampton Institute, and the Associates in Negro Folk Education under the chairmanship of William M. Cooper, brought to the Lower Peninsula of Virginia a number of prominent white and Negro leaders, fired with the zeal "to strengthen the educational outlook in the South and in all the States where there is a considerable number of Negroes and where the work seems to be in need of greater strength."

Dr. Arthur Howe, president of Hampton Institute, welcomed the members of the conference, which concerned itself with the conditions, needs, and trends in adult education for Negroes, and also with some of the extension programs that have been used to advance popular education among Negroes (see *School and Society,* 48:586, Nov. 5, 1938).

Committee reports were made of Government and state aid, extension programs, teacher training and materials for adult education, and public facilities (forums, press, radio). Alain Locke of Howard University spoke on "Negro Needs as Adult Education Opportunities"; Lyman Bryson of Columbia University, "Controversial Issues and Mass Education"; Luther P. Jackson of Virginia State College for Negroes, "Adult Education and Civic Participation"; Rachel D. DuBois of the Service Bureau of Human Relations, "Inter-cultural Education and Democracy"; R. O'Hara Lanier of the National Youth Administration, "The Social Education of Negro Youth"; Doxey A. Wilkerson of Howard University, "Mass Education in a Democracy"; Eugene K. Jones of the National Urban League, "The Negro Community's Responsibility for Mass Education"; and John W. Studebaker, U.S. Commissioner of Education, "The Federal Government and Mass Education."

This conference was the first of its kind to be held in the South. Through it valuable material was assembled and widely disseminated.

FEDERAL INTEREST

The Journal of Negro Education (July, 1938) carried a symposium on "Relationship of the Federal Government to Negro Education," under the editorship of Prof. Charles H. Thompson of Howard University. In 25 chapters, prepared by white and Negro leaders in education, were told the past, present, and future relationships of the Federal Government to the support and control of Negro separate schools.

On March 1, 1938, the National Association for the Advancement of Colored People issued a circular, "Education in a Democracy," in which reference was made to the Federal expenditures for Negroes, which were only 42.5% of a fair share.

The Advisory Committee on Education issued a publication, *The Federal Government and Education,* which stated that "in most of the States where there are separate schools for Negro children, the schools for white children are below the national average, yet Negro schools are only about half as well supported as the white schools. . . . The low level of education among Negroes is a severe burden, not only on themselves, but on all who employ them or deal with them."

NATIONAL YOUTH ADMINISTRATION

During 1938 some 55,000 young Negro men and women, from 16 to 24 years of age, received general education, practical training, guidance, work experience, and healthful recreation. They also received over $500,000 a month as direct work-aid benefits. Some 36,350 Negro students earned in wages $200,000 a month. Then, too, of this number, 6,000 NYA college students received jobs related to their field of concentration. At Howard, for example, they helped to compile basic sociological data on the Negroes in the District of Columbia. Through NYA aid 350 Negro graduates were enabled to pursue their special studies. For them a fund of

$70,000 had been set up. Through NYA aid Tuskegee Institute carried on important training work for hotel workers.

Many Negro students through the NYA financial assistance were enabled to pursue standard graduate and professional courses at universities in various parts of the United States. Some were preparing for the ministry, law, and medicines. Others worked in the field of sociology or did practical social work. Still others prepared themselves for teaching or advanced work in science, economics, art, music, home economics, farm management, and library science.

In work projects 18,000 Negroes earned over $300,000 a month on the building, repairing, and remodeling of school buildings and furniture. They also received training in household and farm work. In some cases they made clothes for needy families and gave assistance to hospitals.

Some 1,200 young Negroes who were out of school or unemployed were enrolled in 250 resident projects, located on or near the campuses of Negro educational institutions in 13 States.

YOUTH STUDY

Under the auspices of the American Youth Commission and under the direction of Dr. Robert L. Sutherland, a study of Negro youth was begun in 1938, which will review the problems that bear on the relation of Negro youth to American life. A progress report, issued in July, 1938, indicated that Dr. Sutherland and his associates were getting together important data upon the personality of Negro youth as it is affected by minority racial status. These data related to the nature of the adjustments, aggressions, and frustrations of Negro youth. Case studies were under way to discover, through a thorough study of cultural environment, any problems which face Negro youth on account of race. The study got well under way in New York, Chicago, Nashville, Natchez, and five rural counties in southern States. The American Youth Commission has assumed that the results of this study should prove valuable to all who are concerned with the education of American Negroes.

CIVILIAN CONSERVATION CORPS

Since the organization of the CCC in March of 1933, thousands of Negro youth have received educational opportunities. At any given time, since 1933, the Negro enrollment has averaged between 9% and 10% of the total, according to *School Life* (January, 1939). Negro enrollees have come from underprivileged homes and communities and 7.6% have been illiterates when they entered the CCC camps. Of the enrollment in 1938, 53.7% were on the elementary school level and the average age was nearly 19 years. About 33.5% were on the high-school level; 5.2% had completed high school or entered college. The majority of Negro youth upon entering the CCC camps had never had any systematic vocational training or occupational guidance.

The Negro educational advisers continued to be chosen on the basis of their training, experience, and sympathetic understanding of Negro problems. Every adviser had received a bachelor's degree and 13.2% held the master's degree; 70% of the advisers had had previous teaching or school administrative experience. Over 90% of the Negro illiterate enrollees were given some training to remove their deficiency. Over 52% of those who were on the elementary school level were given instruction, as compared with 40% in 1937. Courses were offered the Negro enrollees in cooking, table-waiting, mess management, shoe-repairing, barbering, laundering, tailoring, and store management.

Some 1,400 persons, including reserve officers, technical staffs of the camps, and local teachers, both white and Negro, were engaged in carrying on the CCC work among Negroes during 1938. Many young Negroes in CCC camps that were near educational institutions enrolled in evening classes. The 131 CCC camps in their educational work furnished some 30,000 Negro youth, through 129 advisers, with the type of preparation and experience that modern life in the United States demands of them.

CONFERENCES

During the year 1938 Dr. Arthur D. Wright, president of the Southern Education Foundation (Washington, D.C.), held a series of group conferences of Jeanes teachers in which were discussed problems of vital concern to men and women who are engaged in improving rural education among Negroes. These problems included the following: transportation and consolidation; school attendance; buildings and equipment; classroom instruction; poorly trained teachers; health service; school supervision; adult education; work with school beginners; measures of good teaching; community development through cooperative effort; and raising standards of living, economic and social.

The Second All Southern Negro Youth Congress, representing 300,000 Negroes, met at Chattanooga, April 1–3 and discussed "A Program for Negro Education" under four topics: the curriculum; problems of the college administration; student government; and Federal aid. Other subjects included marriage and home life, Christian youth building a new world, youth's common heritage of culture, job security, and citizenship in relation to voting, the poll tax, jury service, and lynching. There were present 345 Negro college youths whose general theme was expressed in these words: "We seek not privileges of blueblood society, such as intermarriage, interracial parties, but we do seek economic and political rights, and the chance to pursue the path of happiness." The Congress voted to ask for the continuation of the CCC and the NYA; to support the Wagner Labor Act, shorn of Negro discrimination, and the Anti-Lynching Bill; to seek decent wages for Negro teachers; and to help strengthen the Negro church. The Congress included representatives of nearly every denomination. About 125 whites were in attendance. The third Congress will meet in April, 1939, at Birmingham, Ala.

PUBLICATIONS

There was produced, during 1938, a large amount of current literature on the education of Negroes. In the four issues of the *Journal of Negro Education,* published by the Bureau of Educational Research of Howard University (Washington, D.C.), some 1,119 titles of books, bulletins, pamphlets, monographs, and magazine articles were listed, in addition to many reviews and abstracts of books and leading articles. Other publications were:

Bronze Booklets (Washington, D.C.: Associates in Negro Folk Education).
Davis, John A., "We Win the Right to Fight for Jobs," *Opportunity* (16:230–237, August, 1938.).
Gallagher, Buell G., *American Caste and the Negro College* (New York; Columbia University Press).
High, Stanley, "Black Omens," *Saturday Evening Post* (May 21 and June 4, 1938).
Johnson, Charles S., *The Negro College Graduate* (Chapel Hill, N.C.: University of North Carolina Press).
Shackelford, Jane D., *Child's History of the Negro* (Washington, D.C.; Associated Publishers).
Shay, Frank, *Judge Lynch* (New York; Ives Washburn).
Wright, Richard, *Uncle Tom's Children* (New York; Harpers).

LIBRARIES

By Mildred Othmer Peterson

American Library Association

FEDERAL RELATIONS

Ralph M. Dunbar took office as chief of the new Library Service Division of the United States Office of Education Jan. 2, 1938, assisted by Edith Gantt, public library specialist, and Nora Beust, school library specialist. In the Works Progress Administration, Edward A. Chapman has been appointed national library consultant.

Progress toward the development of library service for the millions of Americans still without it was made when the report of President Roosevelt's Advisory Committee on Education, released in February, 1938, recommended Federal grants to the States for rural library service, beginning with $2,000,000 and increasing to $6,000,000 a year, over a period of six years, together with grants for schools, teacher training, adult education, and other educational purposes. American Library Association representatives, librarians, and friends of libraries worked for the passage of the Harrison-Thomas-Fletcher Bill, introduced in April, which embodied these recommendations, but due to the short time it was before Congress, the bill did not come up for a vote. Congressional leaders have promised prompt consideration at the 1939 session.

A bill signed by President Roosevelt June 20, 1938 authorized the retirement of Dr. Herbert Putnam, librarian of Congress since 1899, with the title of librarian emeritus.

Public document distribution to libraries was broadened in ways recommended by the A.L.A. Public Documents Committee through the passage of a bill (H.R. 5471) during the last weeks of the congressional session.

STATE DEVELOPMENTS

One of the most significant state developments in 1938 was Louisiana's passage of a $200,000 appropriation to increase the service of the state library commission, to continue a tri-parish experiment initiated by the commission, and to launch a second demonstration of the same kind.

For school libraries, Louisiana spent approximately $300,000 in 1938; Tennessee voted $100,000 for 1939; Georgia and Virginia have each appropriated $100,000; and North Carolina spent approximately $50,000 this year.

Michigan's $500,000 annual fund for public library service, cut to $375,000 along with a reduction in other state appropriations, became available for the fiscal year 1938-39. More than a dozen States are planning state aid campaigns for 1939.

Regional libraries were developed in northern Alabama and western North Carolina by local library boards under contract with the Tennessee Valley Authority. Some 40 counties throughout the United States established county libraries during the year. Some were the result of WPA county library demonstrations. Over 300 counties now spend at least $1,000 annually for county library service.

SERVICE OF ESTABLISHED LIBRARIES

Despite the continued general rise in appropriations and expenditures for public libraries and libraries in institutions of higher education, loans of books for home use have been decreasing. Borrowing of non-fiction, however, has not decreased as much as has the borrowing of fiction. The use of libraries for reference has shown no decrease and many reference rooms continue to report an increased demand for information in special fields.

ADULT EDUCATION

The major enterprise under the A.L.A. Adult Education Board's direction, among several other studies already published or in preparation, is a detailed study of the internal library procedures needed to put the library's service in the field of self-education on a more effective plane. It is to be "a blue print of 'a community intelligence center,' not sketched in generalities but with as much detail as present-day knowledge of reading interests, public relations, personnel management, distribution methods, and social psychology can furnish." Studies recently published are *Helping the Reader toward Self-Education* by John Chancellor, Miriam D. Tompkins, and Hazel I. Medway and *Books for Self-Development* by Sigrid A. Edge. In preparation are *Types of Library Adult Educa-*

tion Service by John Chancellor and *A Plan of Reading in Psychology,* by Marion E. Hawes.

During 1938, slow but definite expansion of readers' advisory service in local libraries was reported, and six state library associations now have adult education committees to promote development of adult education service through local libraries, especially the smaller libraries.

SURVEYS AND STUDIES

Upon the request of local authorities during the year, A.L.A. surveys were made of the public libraries of Lincoln, Neb.; Concord, N.H.; and Fort Worth, Tex. Unofficially, the A.L.A. has been associated with many surveys of college and public libraries made under other auspices. One of these is the survey of the Chicago Public Library by the University of Chicago Graduate Library School, with a grant of $10,000 from the Carnegie Corporation.

Reports appearing in periodicals of investigations made, in addition to studies listed in the Adult Education and Publications sections of this article, include: "Public Library Service in the Middle West," by G. Flint Purdy, *Library Quarterly* 8:346–72, July, 1938; "The Effectiveness of the Public School-Housed Library Branch," by James E. Wert in *Library Quarterly* 7:537–45, October, 1937; "The Influence of Sloping Shelves on Book Circulation," by Ralph R. Shaw, *Library Quarterly* 8:480–90, October, 1938; and "The Official Catalog for the Large Public Library," by Florence B. Morgan, *Library Quarterly* 8:210–35, April, 1938.

In the school library field, Walter Crosby Eells, coordinator of the National Cooperative Study of Secondary School Standards, reported on methods used to measure the adequacy of a secondary school library in two articles (A.L.A. *Bulletin* 32:157–63, March, 1938, and 234–38, April, 1938), and Lulu R. Reed outlined "A Test of Students' Competence to Use the Library," reporting tests made with both high school and college students in *Library Quarterly* 8:236–83, April, 1938.

Other college library studies included "The Course in Recreational Reading in Birmingham-Southern College," by William S. Hoole, *Library Quarterly* 8:1–12, January, 1938; "How Is the Library Presented in the College Catalog?" by Florence King, *Library Quarterly* 8:77–92, January, 1938, and "Library Noise" by E. W. McDiarmid, Jr. and G. R. Tatum, *Library Quarterly* 8:200–09, April, 1938.

"Pre-Professional Background of Students in a Library School," by Eugene H. Wilson, *Library Quarterly* 8:157–88, April, 1938, reported the background of 846 students attending the University of Illinois Library School during a ten-year period beginning in 1926.

LIBRARY TRAINING

Special attention was directed during 1938 to the recruiting of superior college students to librarianship as a profession, and the A.L.A. Board of Education for Librarianship endeavored to discourage unwise multiplication of library training agencies through wide distribution of a statement on "Establishment of New Library Schools."

The Board sponsored publication in the *Bulletin of the American Library Association,* January, 1938, of the article, "A Look Ahead for Library Schools," by Ernest J. Reece, professor, School of Library Service, Columbia University, and made surveys of library training and personnel in Indiana and Michigan.

An additional grant of $4,600 was made by the General Education Board to Fisk University, Atlanta University, Hampton Institute, and Prairie View State College for continuation, in the summer sessions of 1938 and 1939, of the program of instruction for Negro teacher-librarians begun in 1936 under the sponsorship of the Board of Education for Librarianship.

Grants-in-aid, amounting to $9,000 from the Carnegie Corporation of New York, were awarded by the A.L.A. Committee on Fellowships and Scholarships to five American and two Canadian librarians for investigation and research. The Carnegie Corporation also made visitors' grants to seven librarians in Australia, Union of South Africa, England, Italy, Puerto Rico, and the United States, who wished to observe library methods abroad.

Grants were also made by the Carnegie Corporation to Columbia University, School of Library Service, $150,000 being for endowment of the Melvil Dewey Professorship of Library Service and $100,000 for general purposes. Fifty thousand dollars was given by the Corporation for support of research projects at the University of Chicago Graduate Library School. An appropriation of $100,000 was made by the General Education Board toward a permanent endowment of the Peabody Library School.

The A.L.A. Board on Library Service to Children and Young People and the Board of Education for Librarianship published a list of courses offered by accredited library schools in the summer session of 1938, as stimulative in-service training for children's, school, and young people's librarians.

During the summer of 1938, the University of Chicago Graduate Library School held a ten-day institute on the subject, "Current Issues in Library Administration," as the third institute conducted by the school for librarians in service. The proceedings of the institute are available from the University of Chicago Press. Columbia School of Library Service and the University of Buffalo offered courses in music library work for the first time. Also, 1938 saw the appointment of the first library intern in the Tennessee Valley Authority for an eleven months' assignment, beginning in August. A pre-librarianship curriculum was inaugurated at the University of Wyoming and Simmons College.

LIBRARY PERSONNEL

Salaries of librarians have not advanced in proportion to the increase in the cost of living. This is partly due to the fact that increases in library budgets have not warranted additional expenditures. The majority of vacancies are open to beginners and persons with a few years of experience who are available at low salaries.

The preparation of "Classification and Pay Plans for Municipal Public Libraries" has been the first project of the newly created A.L.A. Board on Salaries, Staff, and Tenure. These plans are expected to serve as the foundation upon which all other personnel work will be developed. Extensive consideration has also been given to the study of civil service, tenure of position, and exchanges.

In Ohio, the legislature enacted a law enabling all public library employees of the State to become members of a state-wide Public Employees Retirement System beginning July 1, 1938. As a result of a survey made by the Staff Association of the Free Public Library, East Orange, N.J., it was learned that several States and cities have laws pertaining to pensions for librarians. State legislation regarding library pensions is now being sought by the New Jersey Library Association and others.

An important factor in the growth and extension of the A.L.A. Retirement Plan for librarians, as well as pressure for adequate retirement legislation in several States, has been the exclusion of public employees and employees of educational institutions and associations from the benefits of the Social Security Act.

GIFTS, GRANTS, AND BUILDINGS

In 1938, many gifts, collections of books, and buildings were presented to libraries. Among the largest gifts was a grant of $1,000,000 to the Joint University Libraries, Nashville, Tenn. by the General Education Board for a library building or endowment on condition that an additional $1,000,000 be secured by Dec. 31, 1938. MacMurry College, Jacksonville, Ill. is to have a new library building as a gift of Mrs. Annie and Henry Pfeiffer of New York City, on condition that $100,000 be secured as an endownment. The University of Oregon has received $100,000 from the Rockefeller Foundation and $100,000 from an anonymous donor for an addition to the Medical School Building in Portland, which will include the library. Drew University, Madison, N. J., is constructing a new $500,000 memorial library, the gift of the late Mr. and Mrs. Lenox S. Rose of Madison.

The new $125,000 Friedsam Library of St. Bonaventure College, St. Bonaventure, N.Y., is a gift of the late Col. Michael Friedsam. A $100,000 wing has been added to the Bryn Mawr College Library as a gift of Dr. and Mrs. George Woodward of Chestnut Hill, Pa., in memory of their daughter Quita Woodward. Work has also been started on a $100,000 addition to the James V. Brown Library of Williamsport, Pa.

The Library of Congress received a grant from the Rockefeller Foundation for a photographic laboratory, and a new microphotography department has been established at Sullivan Memorial Library, Temple University, Philadelphia, with a gift from the Samuel I. Vogelson Foundation.

Public Works Administration grants have been approved for a number of buildings. Late in 1937, the new University of Oregon Library, which cost about $500,000, was completed with the aid of a PWA grant.

Among other new library buildings completed or under construction in 1938 were Chapman Memorial Library, Milwaukee-Downer College, Milwaukee, Wis.; Manhattan College Library, New York City; Howard University Library, Washington, D.C.; Texas Technological College Library, Lubbock, Tex.; Ralph Gibson McGill Memorial Library, Westminster College, New Wilmington, Pa.; College of Mines Library, El Paso, Tex.; Willamette University Library, Salem, Ore.; additional units for the libraries of the College of the City of New York; an annex to the Olin Memorial Library, Wesleyan University, Middletown, Conn.; Morgan College Library, Baltimore, a PWA project; Mount Vernon, N.Y. Library, remodeled and new addition built with PWA assistance; Clark University Library, Worcester, Mass., a new wing; Pennsylvania State College Library; Connecticut State College Library; and Alabama Memorial Building, which will provide new quarters for the State Department of Archives and History.

The William Howard Doane Library of Denison University, Granville, O. and the David A. Howe Public Library, Wellsville, N.Y., were buildings completed in 1937, not reported in the 1937 review.

The Archives Division of the Illinois State Library has now moved to the new State Archives Building, which will cost over $1,000,000 when completely equipped. It is one of three such buildings in this country, the other two being the new National Archives Building in Washington, D.C., completed in 1937 at a cost of more than $12,000,000, and the Maryland Hall of Records at Annapolis.

St. Louis (Mo.) Public Library now owns what is said to be the only separate library in the world for the use of the blind, the Henry L. Wolfner Memorial Library. Local citizens headed by Dr. Meyer Weiner raised a total of $35,000 for the library and furnishings. It is the first branch building, fully equipped, to be given to the St. Louis Public Library.

Congress has provided funds to draw plans for a new central building for the Public Library of the District of Columbia.

FRIENDS OF THE LIBRARY GROUPS

More than 100 of these groups have been organized under A.L.A. auspices to function on behalf of libraries as parent-teacher groups do for schools. Their activities range from making gifts of books, encouraging bequests and endowments and making the library articulate in the community, to working for a new building or a larger appropriation from the city. They vary in size from groups of 40 or 50 members to those numbering 800 or 900.

AMERICAN LIBRARY ASSOCIATION

Officers for 1938–39 elected at the 60th annual conference are: Milton J. Ferguson, Brooklyn, President; Ralph Munn, Pittsburgh, first vice-president and president-elect; Sarah B. Askew, Trenton, N.J., second vice-president; and Matthew S. Dudgeon, Milwaukee, Wis., treasurer. The conference was held in Kansas City, Mo., June 13–18, 1938, with over 2,000 of the Association's 15,000 members present. The midwinter conference was held Dec. 27–30, 1938, in Chicago and the 1939 conference will be held in San Francisco, June 18–24. Headquarters of the Association, which has a staff of 70 persons, are at 520 N. Michigan Ave., Chicago, with Carl H. Milam as executive secretary.

At the 1937 midwinter meeting, held in Chicago, Dec. 27–30 and attended by approximately 700 librarians and library trustees, the Council, policy forming body of the Association, gave a vote of thanks to the General Education Board for extending the time of the appropriation for cooperative cataloging for two years, or until the end of 1939. The members acknowledged with appreciation grants of $4,850 from the Carnegie Corporation toward a supplement to the *List of Books for College Libraries,* $2,500 toward the Sarah C. N. Bogle Memorial Fund (to aid librarians to study abroad), and $9,000 for library fellowships in the United States and Canada. Dorothy Reeder, director of the American Library in Paris, announced a Carnegie Corporation grant of $25,000 to help build up the book collection of that library.

At the Kansas City conference delegates were present not only from the United States and Canada. but also from Australia, Italy, Yugoslavia, Mexico, and South Africa. During this conference, three awards were given for the first time. The Joseph W. Lippincott Award, consisting of a certificate and $500 was presented to Mary U. Rothrock, supervisor of library service of the Tennessee Valley Authority, for "the most outstanding contribution to librarianship" in 1935–36. Miss Rothrock was cited for "rare vision and intelligence shown in organizing a regional library service and related adult education activities" for the TVA. The James Terry White Medal, given for "notable published professional writing" was presented to Carleton B. Joeckel, professor, Graduate Library School, University of Chicago, for his *Government of the American Public Library.* The first Caldecott Medal. awarded by the Section for Library Work with Children and the School Libraries Section of the Association for the most distinguished American picture book for children published during 1937, was given to Dorothy P. Lathrop for her illustrations of *Animals of the Bible.* The section awarded the 16th Newbery Medal, presented for the most distinguished contribution to children's literature published during 1937, to Kate Seredy for *White Stag.*

The total income of the A.L.A. for the last fiscal year was about $290,000 (excluding cash balances of about $74,000). The largest items of expenditure were for the publication of association and professional literature, for carrying out definite projects for which grants had been specifically given, and for the promotion of professional library education and activities. The Association's endowment is now approximately $2,178,000.

PUBLICATIONS

Four periodicals are published by the A.L.A.: *Bulletin of the American Library Association,* a monthly; the *Booklist,* issued semi-monthly; the *Subscription Books Bulletin,* a quarterly; and the new quarterly, the *Journal of Documentary Reproduction.* Some additional 1938 A.L.A. publications, not previously listed, were: *The Geography of Reading* (published jointly with the University of Chicago Press), *Resources of Southern Libraries, Official Map Publications, Activity Book for School Libraries, Subject Index to Readers, Vocations in Fiction, Vocations in Short Stories, Subject Index to High School Fiction, Experimenting Together—the Librarian and the Teacher of English, Small Public Library Buildings,* and *A.L.A. Catalog 1932–1936.*

Some other recent publications include: Guy T. Buswell, *How Adults Read* (Univ. of Chicago Press, 1937); William C. Haygood, *Who Uses the*

Public Library? (Univ. of Chicago Press, 1938); Marion Humble, *Rural America Reads—A Study of Rural Library Service* (American Association for Adult Education, 1938); Faith Holmes Hyers, *The Library and the Radio* (Univ. of Chicago Press, 1938); *An Invitation to Read: The Use of the Book in Child Guidance,* a list of titles recommended by Mayor F. H. LaGuardia's (N.Y.) committee for the selection of suitable books for children in the courts; Alvin Johnson, *The Public Library—A People's University* (American Association for Adult Education, 1938); Margaret C. Lyon, *Selection of Books for Adult Study Groups* (Columbia Univ. Press, 1938); Blanche P. McCrum, *An Estimate of Standards for a College Library* (Washington and Lee Univ., 2d ed., rev., 1937); Oscar H. McPherson, *Study of Libraries in Schools of the Secondary Education Board* (Secondary Education Board, Milton, Mass.); *Reorganization of a Large Public Library: Ten Year Report of the Enoch Pratt Free Library,* 1926-35 (Baltimore, Enoch Pratt Free Library, 1937); Marian Shaw, ed., *Library Literature,* 1937 (Wilson, 1938); Douglas Waples, *People and Print: Social Aspects of Reading in the Depression* (Univ. of Chicago Press, 1937); and Louis R. Wilson, ed., *The Rôle of the Library in Adult Education* (Univ. of Chicago Press, 1937).

PERIODICAL PUBLICATIONS

American Teacher
506 South Wabash Ave., Chicago.

Business Education World
270 Madison Ave., New York City.

Child Study
221 West 57th. Street, New York City.

Education
120 Boylston Street, Boston.

Educational Method
525 West 120th. Street, New York City.

Educational Record
744 Jackson Place, Washington, D.C.

Industrial Arts and Vocational Education
524 North Milwaukee Street, Milwaukee, Wis.

International Journal of Religious Education
203 North Wabash Ave., Chicago.

Journal of Adult Education
60 East 42nd. Street, New York City.

Journal of Business Education
Wilkesbarre, Pa.

Journal of Education
6 Park Street, Boston.

Journal of Educational Psychology
Baltimore, Md.

Journal of Educational Sociology
32 Washington Place, New York City.

Journal of Engineering Education
University of Pittsburgh, Pittsburgh, Pa.

Journal of Geography
3333 Elston Ave., Chicago.

Journal of Higher Education
Ohio State University, Columbus, O.

Journal of Negro Education
Howard University, Washington, D.C.

Journal of Physical Education
347 Madison Ave., New York City.

Journal of the National Education Association
1201 Sixteenth Street, N.W., Washington, D.C.

Junior College Journal
Stanford University Press, Palo Alto, Calif.

Library Journal
62 West 45th. Street, New York City.

Library Quarterly
5750 Ellis Ave., Chicago.

National Parent-Teacher Magazine
420 Lexington Ave., New York City.

National Student Mirror
8 West 40th. Street, New York City.

Occupations
551 Fifth Ave., New York City.

Parents' Magazine
9 East 40th. Street, New York City.

Peabody Journal of Education
George Peabody College for Teachers, Nashville, Tenn.
Pitman's Journal
2 West 45th. Street, New York City.
Progressive Education
716 Jackson Place, Washington, D.C.
Religious Education
59 East Van Buren Street, Chicago.
School Management
9 East 40th. Street, New York City.
School Review
5835 Kimbark Ave., Chicago.
World Federation News
1201 Sixteenth Street, N.W., Washington, D.C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Assn. for Adult Education, 60 E. 42nd St., New York City.

American Council on Education, 744 Jackson Place, N.W., Washington, D.C.

American Council of Learned Societies, 907 15th St., Washington, D.C.

American Federation of Teachers, 219 Fifteenth St., Toledo, O.

General Education Board, 49 W. 49th Street, New York City.

Bureau of Educational Reference and Research, University of Michigan, Ann Arbor, Mich.

National Congress of Parents and Teachers, 1201 16th St., N.W., Washington, D.C.

National Council of Education, Teachers College, Columbia University, New York City.

National Education Assn. of the U.S.A., 1201 16th St., N.W., Washington, D.C.

National Research Council, Division of Educational Relations, 2101 Constitution Ave., N.W., Washington, D.C.

National Society for the Study of Education, University of Minnesota, Minneapolis, Minn.

Public Education Assn., 745 Fifth Ave., New York City.

INTERNATIONAL

Institute of International Education, 2 W. 45th St., New York City.

International Council for the Education of Exceptional Children, 3 East 25th St., Baltimore, Md.

International Council of Religious Education, 297 Fourth Ave., New York City.

Pan-American Educational Congress, Universidad de Chile, Cosilla 2543, Santiago, Chile.

TEACHERS

American Federation of Teachers, 219 Fifteenth St., Toledo, O.

Carnegie Foundation for the Advancement of Teaching, 522 Fifth Avenue, New York City.

Educators Assn., 307 Fifth Ave., New York City.

National Student Federation of America, 8 West 40th St., New York City.

Students International Union, 522 Fifth Ave., New York City.

Teachers Union, 114 East 16th St., New York City.

SCHOOLS

American School Citizenship League, 295 Commonwealth Ave., Boston, Mass.

Child Study Assn. of America, Inc., 221 W. 57th St., New York City.

National Assn. of High School Supervisors and Inspectors, State Department of Education, Columbus, O.

National Assn. of Secondary School Principals, 5835 Kimbark Ave., Chicago, Ill.

National Kindergarten Assn., 8 West 40th St., New York City.

Y.M.C.A. Educational Secretaries

Assn., 55 Hanson Place, Brooklyn, New York City.

COLLEGES AND UNIVERSITIES

American Assn. of Collegiate Registrars, George Peabody College for Teachers, Nashville, Tenn.

American Assn. of Junior Colleges, Little Rock Junior College, Little Rock, Ark.

American Assn. of University Professors, 744 Jackson Place, N.W., Washington, D.C.

American Assn. of University Women, 1634 Eye St., N.W., Washington, D.C.

Association of American Colleges, 19 West 44th St., New York City.

Association of American Universities, Yale University, New Haven, Conn.

Association of Colleges for Negro Youth, Fisk University, Nashville, Tenn.

Association of Land Grant Colleges and Universities, University of Kentucky, Lexington, Ky.

College Entrance Examination Board, 431 W. 117th St., New York City.

National Assn. of State Universities, Miami University, Oxford, O.

National University Extension Assn., Indiana University, Bloomington, Ind.

New England Assn. of Colleges and Secondary Schools, Tufts College, Medford, Mass.

Phi Beta Kappa, 145 W. 55th St., New York City.

PROFESSIONAL EDUCATION

American Assn. of Teachers Colleges, State Normal School, Oneonta, New York.

American Medical Assn., Council on Medical Education and Hospitals, 535 N. Dearborn St., Chicago, Ill.

Association of American Law Schools, Ohio State University, Columbus, O.

Association of American Medical Colleges, 5 S. Wabash Ave., Chicago, Ill.

Section of Legal Education, American Bar Assn., 1140 N. Dearborn St., Chicago, Ill.

Society for the Promotion of Engineering Education, University of Pittsburgh, Pittsburgh, Pa.

SPECIAL EDUCATION

American Assn. to Promote Teaching of Speech to the Deaf, School for the Deaf, Staunton, Va.

American Child Health Assn., 50 West 50th St., New York City.

American Humane Education Society, 180 Longwood Ave., Boston, Mass.

American Physical Education Assn., 311 Maynard St., Ann Arbor, Mich.

National Assn. of the Deaf, 3633 East Tremont Ave., New York City.

VOCATIONAL

American Assn. for the Advancement of Agricultural Teaching, Iowa State College, Ames, Ia.

American Home Economics Assn., Mills Building, Washington, D.C.

American Vocational Association, 1010 Vermont Ave., Washington, D.C.

National Vocational Guidance Assn., 25 Lawrence Hall, Harvard University, Cambridge, Mass.

Workers Educational Bureau of America, Machinists Building, Washington, D.C.

Note: For additional educational societies consult U. S. Office of Education, Washington, D.C.

NECROLOGY FOR 1938

Abbott, Yarnall, painter, 67, June 24.

Abel, Dr. J. J., adrenalin expert, 81, May 26.

Abercrombie, Lascelles, English poet, 57, October 27.

Adamowska, Mme. Josef, pianist, 70, August 16.

Altamirano, Luis, former President of Chile, July 25.

Altheimer, Ben, banker and philanthropist, 88, April 30.

Anderson, A. B., Federal jurist, 81, April 27.

Andrassy, Count Geza, Hungarian statesman, 82, August 29.

Arai, Kentaro, Japanese statesman, 74, January 29.

Armstrong, Sir H. G., former British consul general at New York, 77, February 6.

Atholstan, Lord (Hugh Graham), Canadian newspaper owner, 89, January 29.

Atatturk, Mustapha Kemal, President of Turkey, 58, November 10.

Averesqu, Alexandru, Rumanian soldier, 75, October 2.

Bacon, Robert L., banker and Congressman, 54, September 12.

Balcom, L. L., artist, 50, March 12.

Barbey, H. G., civil engineer, 67, July 24.

Barclay, Arthur, former President of Liberia, 84, July 11.

Barker, Brig. Gen. F. A., soldier, 58, August 22.

Barnard, George Grey, sculptor, 74, April 24.

Barrett, John, diplomat, 71, October 17.

Barse, G. R., painter, 76, February, 25.

Bedier, Joseph, French educator, 74, August 30.

Beresford, G. C., original of "McTurk", Kipling character, 72, February 21.

Bigelow, Dr. E. F., naturalist, 78, July 13.

Blackwell, R. E., educator, 83, July 17.

Blackwood, Rear Admiral N. J., 72, April 1.

Bonnin, Mrs. Gertrude, Sioux Indian leader, 62, January 26.

Braham, H. A., composer, 79, January 13.

Branchard, E. P., painter, 56, February 15.

Brooks, J. G., social economist, 91, February 8.

Browne, Stewart, realtor, 84, August 4.

Bruce, Arthur, Shaker leader, 79, April 18.

Bryant, Samuel, Baptist educator, 62, September 21.

Cabot, Eliot, actor, 38, June 17.

Capek, Karel, Czech author, 48, December 25.

Cardozo, Benjamin N., associate justice, U. S. Supreme Court, 68, July 9.

Chadbourne, Thomas L., lawyer, 66, June 15.

Chaliapin, Feodor, singer, 65, April 12.

Chrysostomos, Archbishop, primate of Greek Church, 69, October 22.

Claflin, John, merchant, 87, June 11.

Coffman, L. D., educator, 63, September 22.

Connaught, Prince Arthur of, soldier, administrator, 55, September 12.

Copeland, Dr. Royal S., U. S. Senator from New York, 69, June 17.

Coughlin (Bath house John), alderman, banker, etc., 78, November 11.

Covadonga, Count of, eldest son of Alfonso XIII, 31, September 6.

Cowperthwait, J. H., merchant, 89, February 11.

Crane, Richard, diplomat, 56, October 3.

Crichton-Browne, Sir James, surgeon, 97, January 31.

Cyril Vladimirovitch, Grand Duke, Russian pretender, 62, October 12.

Czarnomska, Marie E., educator, 88, May 22.

Daggett, Brig. Gen. A. S., American soldier, 100, May 14.

D'Annunzio, Gabriele, poet, soldier, 74, March 1.

Darrow, Clarence, lawyer, 80, March 13.

Dart, H. G., cartoonist, 69, November 15.

Davenport, L. S., painter, dentist, 70, February 26.

Davis, L. M., painter, 74, May 5.

Davis, Brig. Gen. M. F., American soldier, 73, May 31.

Day, Archbishop J. G. F., Protestant Primate of Ireland, 65, September 26.
Dayton, Rear Admiral J. H., 92, November 15.
Dazey, C. T., playwright, 84, February 9.
Denby, Charles, diplomat, 76, February 14.
Devonshire, Duke of (Victor C. W. Cavendish), 69, May 6.
Ditmas, C. A., genealogist, 50, July 30.
Drury, Rev. S. S., educator, 59, February 21.
Dyson, Will, etcher, cartoonist, 54, January 21.
Edgerton, J. E., manufacturer, 58, August 4.
Edstrom, David, sculptor, 65, August 12.
Edwards, Harry S., author, 83, October 22.
Edwards, S. A., etcher, 76, November 4.
Ennis, Brig. Gen. William, 97, September 30.
Fairbanks, W. C., newspaper publisher, 60, July 27.
Fey, Major Emil, former Vice Chancellor of Austria, 52, March 15.
Firestone, Harvey S., rubber grower and tire maker, 69, February 7.
Fletcher, Constance, novelist, 80, June 10.
Flick, Dr. L. F., tuberculosis specialist, 81, July 7.
Forbes, James, playwright, 66, May 26.
Forbes, Vivian, English painter, 46, December 25.
Ford, H. C., playwright, 60, May 21.
Forster, J. W. L., Canadian painter, 85, April 25.
Franco, Ramon, Spanish aviator, October 28.
Frederick, Pauline, actress, 53, September 19.
Frobenius, Leo, archaeologist, 65, August 9.
Furniss, Grace L., playwright, 74, April 20.
Gale, Zona, author, 64, December 27.
Gardner, Obadiah, former U. S. Senator from Maine, 87, July 24.
Garner, James W., international law authority, 68, December 9.
Geer, Grace W., painter, 83, June 26.
Gilbert, S. P., lawyer, banker, 45, February 23.
Glackens, W. J., artist, 68, May 22.
Gluck, Alma, singer, 54, October 27.
Godowsky, Leopold, pianist, composer, 68, November 21.
Goga, Octavian, Rumanian statesman, 57, May 7.
Goldsmid-Montefiore, C. J., Jewish author and educator, 80, July 9.
Grayson, Rear Admiral Cary T., chairman, American Red Cross, 59, February 15.
Grey Owl (Archie McNeil), Apache naturalist, 48, April 13.
Hale, Dorothy, actress, 33, October 21.
Hale, Professor G. E., naturalist, 69, February 2.
Hamlin, C. S., former governor, Federal Reserve Board, 76, April 24.
Harper, J. H., publisher, 86, January 25.
Harrison, Fairfax, railroad executive, lawyer, 69, February 2.
Hawks, Frank, aviator, 41, August 23.
Hayes, Patrick, Cardinal-Archbishop of New York, 70, September 4.
Heath, T. K., minstrel, 85, August 18.
Herreshoff, Capt. N. G., yacht designer and builder, 90, June 2.
Herrick, Robert, author, 70, December 23.
Hewitt, Erskine, industrialist, 67, May 22.
House, Edward M., President Wilson's adviser, 79, March 28.
Huston, Col. T. L. H., Yankees' owner, 71, March 29.
Insull, Samuel, utilities promoter, 78, July 16.
Irwin, May, actress, 76, October 22.
Isham, Mrs. Charles, Abraham Lincoln's granddaughter, 69, November 21.
Jepson, Edgar, novelist, 74, April 11.
Johnson, James Weldon, Negro poet, composer, 67, June 26.
Judah, Col. N. B., diplomat, 53, February 26.
Karageorgevitch, Prince Arsene, 79, October 19.
Keyes, H. W., statesman, 75, June 19.
Kidder, N. T., banker, 77, July 13.
Kimball, E. M., actor, 78, January 4.
Kinney, Troy, artist, 66, January 29.
Knoti, Isadore, sculptor, 75, January 11.

Koehl, Capt. Hermann, aviator, 50, October 7.

Kohler, Fred, actor, 59, October 28.

La Farge, Bancol, artist, 72, August 14.

La Farge, C. Grant, architect, 76, October 11.

Lang, Anton, Christus (Oberammergau), 63, May 18.

Langhorne, Col. W. H., planter, 55, June 9.

Laufer, Rev. C. W., hymn writer, 64, September 20.

Launay, Louis de, geologist, 78, July 1.

Lawrence, W. H., illustrator, 72, March 3.

Lederer, G. W., producer, 76, October 8.

Lewisohn, Adolph, mine industrialist, philanthropist, 89, August 17.

Livingston, Philip, lawyer, 76, June 24.

Loew, H. G., lawyer, 81, July 16.

Lumley, A. T., sports writer, 86, June 8.

Macaulay, Mrs. W. J. B., philanthropist, 53, November 24.

Mackay, Clarence H., telegraph executive, 64, November 12.

Mackey, H. A., ex-mayor of Philadelphia, 69, October 17.

MacLean, Rev. G. E., educator, 87, May 3.

Magruder, T. P., Rear Admiral U.S.N., 70, May 26.

Malinoff, Alexander, former premier of Bulgaria, 70, March 20.

Manning, W. H., landscape architect, 77, February 5.

Marie, Queen Dowager of Rumania, 62, July 18.

Matzen, H. N., sculptor, 76, April 22.

Maud, Queen of Norway, 68, November 20.

Maury, Carlotta, geologist, 63, January 3.

Maxwell, W. B., novelist, 72, August 4.

McCarter, Mrs. W. A., novelist, 78, August 31.

McComb, Samuel, clergyman and teacher, 74, September 11.

McLean, Major Gen. H. H., 84, November 22.

McDougall, Walt, cartoonist, 80, March 4.

McIntyre, O. O., newspaper writer, 53, February 14.

McKeever, S. W., Dodgers' owner, 84, March 7.

Menken, Mrs. S. S., social leader, 58, September 1.

Milford Haven, Marquess of, (George Mountbatten), 45, April 8.

Morawetz, Victor, lawyer, 79, May 18.

Mulqueen, Mrs. Mary G., lawyer, educator, January 20.

Munroe, Charles E., chemist and educator, 89, December 7.

Newbolt, Sir Henry, naval historian, 75, April 20.

Nicolas, Prince, of Greece, 66, February 8.

Nicoll, Courtlandt, lawyer, 58, September 20.

Noble, W. C., sculptor, 80, May 10.

Nourse, Elizabeth, artist, 78, October 8.

Oland, Warner, actor, 57, August 6.

Oswald, J. C., printer, 65, June 22.

Ottinger, Albert, former Attorney General (N.Y.), 59, January 13.

Palmer, Pauline, artist, August 15.

Pape, Eric, artist, 68, November 7.

Parks, Leighton, clergyman, 86, March 21.

Parks, W. M., Rear Admiral U.S.N., 82, September 17.

Peabody, Francis, lawyer, banker, 83, February 9.

Peabody, George Foster, banker, philanthropist, 85, March 4.

Pease, F. G., astronomer, 57, February 7.

Phelps, W. W., Rear Admiral U.S.N., 68, May 11.

Pickering, W. H., astronomer, 79, January 16.

Prieto, M. C., former premier of Spain, 77, September 15.

Quinters, S. A., Spanish playwright, 67, April 12.

Richardson, Rev. J. A., Metropolitan of Canada (Anglican), 69, October 7.

Roberti, Lyda, actress, 28, March 12.

Romberg, Baron von, aviator, polo player, 27, June 4.

Rorke, Mary, actress, 80, October 12.

Scripps, Robert, newspaper owner, 42, March 3.

Selwyn, Michael, theater owner, 66, April 26.

Shaugnessey, Lord, Canadian lawyer, financier, 55, October 4.
Sheffield, G. R., diplomat, lawyer, 74, September 2.
Shoemaker, W. R., Rear Admiral U.S.N., 75, May 30.
Simonds, Major Gen. G. S., 64, November 1.
Slocum, J. W., lawyer, banker, 71, May 22.
Stephens, Kate, author, editor, 85, May 10.
Stotesbury, E. T., banker, 89, May 16.
Strathmore, Countess of, mother of the Queen of England, 75, June 23.
Strickland, Helen, actress, 75, January 13.
Sumner, Professor J. O., historian, 74, February 20.
Swift, Major Gen. Eben, Indian fighter, 83, April 25.
Szechenyi, Count Laszlo, Hungarian diplomat, July 5.
Tarbell, E. C., artist, 76, August 1.
Tearle, Conway, actor, 60, October 1.
Ten Eyck, J. A., rowing coach, Syracuse University, 86, February 11.
Terry, N. M., Commodore U.S.N., 94, October 12.
Tree, Viola, actress, 54, November 15.
Tewfik, Nessim Pasha, former premier of Egypt, 64, March 7.
Thornton, James, actor, songwriter, 76, July 27.
Tuck, Edward, banker, 95, April 30.
Troubetzkoy, Prince Paul, Russian sculptor, 72, February 13.
Updegraff, Commander Milton, Navy astronomer, 77, September 12.
Valdes, A. P., Spanish novelist, 84, February 2.
Van Antwerp, William C., broker, author, 70, February 17.
Vanderbilt, Frederick W., railroad financier, 82, June 29.
Vandervelde, Emile, Belgian socialist, 72, December 27.
Van Tuyl, G. C., banker, 65, February 9.
Vizetelly, Frank H., lexicographer and philologist, 72, December 20.
Vogel, Martin, lawyer, 60, May 19.
Volpi, Elia, Italian antiquarian, 80, November 27.
Von Ossietzky, Carl, winner Nobel Peace Prize (1935), 48, May 4.
Walker, W. H., cartoonist, 66, January 18.
Waller, Mary Ella, novelist, educator, 83, June 14.
Warburg, Professor Otto, Zionist leader, 55, January 10.
Waterman, F. D., pen manufacturer, 68, March 6.
Watt, R. M., Rear Admiral U.S.N., 65, May 15.
Wells, H. M., first Governor of Utah, 78, March 12.
Westover, Major Gen. Oscar, U.S.A. air chief, 55, September 21.
Whitney, Caroline, sociologist, 37, November 19.
White, Pearl, actress, 41, August 4.
Williams, Y. S., Rear Admiral U.S.N., 62, November 1.
Wirt, W. A., educator, 64, March 11.
Wister, Owen, novelist, 78, July 21.
Wolfe, Thomas, novelist, 37, September 15.
Woolsey, Robert, actor, 49, October 31.
Yeomans, Mrs. L. T., sister of Grover Cleveland, 95, November 4.
Yohe, May, actress, 69, August 28.
Zangwell, Louis, author, 68, May 31.

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